



Comprehensive Conservation and Management Plan Introduction Chapter

February 2021

Prepared by the Santa Monica Bay National Estuary Program
for submittal to the US Environmental Protection Agency



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Santa Monica Bay National Estuary Program Comprehensive Conservation and Management Plan

Introduction Chapter

18 February 2021

Prepared by: The Bay Foundation
Santa Monica Bay Restoration Commission

Prepared for: US Environmental Protection Agency
Santa Monica Bay National Estuary Program's Management
Conference



Suggested Citation:

Santa Monica Bay National Estuary Program. 2021. Santa Monica Bay National Estuary Program's Comprehensive Conservation and Management Plan: Introduction Chapter. Report prepared by The Bay Foundation and Santa Monica Bay Restoration Commission for the United States Environmental Protection Agency. February 2021. 93 pages.

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“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has.” – Margaret Mead

About the Santa Monica Bay and its Watershed

Santa Monica Bay is an integral part of the larger geographic region commonly known as the Southern California Bight. The Bay itself is the submerged portion of the Los Angeles Coastal Plain, bordered offshore by the Santa Monica Basin, on each end by the rocky headlands of Point Dume and the Palos Verdes Peninsula, and onshore by the Los Angeles Coastal Plain and the Santa Monica Mountains. The 414-square mile area of land that drains naturally to the Bay, known as the Bay watershed, is bordered on the north by the Santa Monica Mountains from Ventura-Los Angeles County line to Griffith Park, extending south and west across the Los Angeles coastal plain to include the area east of Ballona Creek and north of Baldwin Hills. South of Ballona Creek, a narrow coastal strip between Playa del Rey and the Palos Verdes Peninsula forms the southern boundary of the watershed. The Bay’s coastline is approximately 82 km in length.

There are 28 separate sub-watersheds within the larger Santa Monica Bay watershed. The three largest are Ballona Creek, Malibu Creek, and Topanga Creek watershed. The northern portion is dominated by the Santa Monica Mountains, the central portion by the Los Angeles Coastal Plan, and southern portion by the Palos Verdes Peninsula. Historically, the Los Angeles River used to flow through the Ballona Creek Watershed until the river changed course in the late 1800’s.

Habitats and Living Resources

Santa Monica Bay and its watershed encompass many types of habitats. These habitats deliver essential ecosystem services, such as nutrient cycling, water purification, and flood control, as well as life’s basic necessities for the species that inhabit them. It is important to periodically assess the health of these habitats so that resource managers can track changes over time, attribute causes to these changes, evaluate the effectiveness of current resource protection policies, and ultimately provide policy-makers with the information they need to plan for the future. The diverse ecosystems within the Santa Monica Bay watershed provide habitats for more than five thousand species of plants, fish, birds, mammals, and other wildlife. The Bay’s terrestrial and aquatic habitats include riparian woodlands and streams, coastal sage scrub, oak woodlands, coastal sand dunes, salt and brackish marshes, lagoons, and mudflats. Marine habitats include soft and hard bottom, pelagic ocean, sandy and rocky intertidal, and kelp and seagrass beds. The habitats have been categorized by the Technical Advisory Committee (TAC) into seven categories, including: freshwater/riparian, coastal wetlands, sandy shores, rocky intertidal, rocky subtidal, soft bottom benthos, and pelagic ocean.

The pelagic ecosystem is important because it includes the nutrients, phytoplankton, and zooplankton that are the base of the marine food chain and thus of sport and commercial fisheries, which are important resources. The pelagic ecosystem also includes marine mammals and certain species of sea birds that are primarily dependent on the ocean for their food and habitat. The soft bottom benthos is an important habitat because it supports seagrass beds, invertebrates, and fish providing forage grounds for many species of ecological and human interest. Importantly the soft bottom is the sink for a portion of the particle-bound contaminants that enter the Bay through discharges, runoff, and aerial deposition. Because sediment conditions change more slowly than do pelagic conditions, the soft bottom benthos is a useful means of identifying and tracking an important category of anthropogenic impacts on the Bay. Soft-bottom benthos also include submerged aquatic vegetation (e.g., eelgrasses) in the nearshore environments.

The hard bottom benthos in Santa Monica Bay encompasses several distinct habitat types, including nearshore rocky reefs (some with persistent kelp beds), artificial reefs (including breakwaters and jetties), and deep rocky substrate (e.g., Short Bank and the canyon walls). These habitats support significant economic and ecological resources within the bay. Human uses include commercial and recreational fishing, scuba diving, and tourism. The intertidal zone benthos in Santa Monica Bay includes two distinct habitat types, rocky intertidal and sandy shores. These habitats provide substantial recreational and economic opportunities, especially the beaches of the sandy shores, and support important ecological resources, e.g., nesting and foraging for migratory birds, and foraging for marine invertebrates. Sandy shores make up approximately 62% or 51 km of shoreline, with the remaining 31 km comprised of rocky or hardened shoreline, predominantly along the Palos Verdes Peninsula (Dobbs and Dorsey 2018).

Coastal wetlands in Santa Monica Bay include larger wetlands, such as those found in the Ballona Wetlands Ecological Reserve and Malibu Lagoon, as well as smaller lagoon areas at the mouths of creeks in the northern portion of the Bay. These wetlands provide important ecological habitat for a wide variety of resident and migratory birds and for both juvenile and adult life stages of marine and estuarine fishes. Because the majority of wetlands in southern California have been heavily degraded by urbanization, the wetlands that remain have increased importance and are highly valued.

Human Uses and Impacts

The ability of the Bay and its watershed to support a rich and diverse ecosystem has also made it a highly desirable environment for human inhabitation. Prior to the late 1700s, the Bay's watersheds were primarily the province of Native American Venturaño, Chumash, Gabrieleño, Tongva, and Fernandeño peoples. The Spanish occupation that began in 1769 with the Portola expedition marked a transition for native peoples in the Los Angeles area. In the following decades, Spanish and Mexican settlers carved the coastal plain into ranchos for cattle grazing and for crops like corn, beans, barley, and wheat and began the alteration of the region's watercourses through damming, diking and ditching. Over

time, agriculture gave way to, oil drilling and the development of other industries, sea and land transportation, housing development and other human activities, which have also greatly changed the Bay's landscape.

Rapid development of the region began after the Southern Pacific Railroad reached Los Angeles in 1876. The discovery of oil also brought swift change to the region. Wetlands were drained and spills polluted as industrialization destroyed wetland systems. By 1879, commercial and sport fishing had begun in Santa Monica Bay. By the early 1900s, Los Angeles had a population of 102,479 and included the newly established Port of Los Angeles, which would shortly become the hub of the tuna canning industry. Thanks to the development of a network of electric trolley cars, coastal areas also became desirable places to live. Developments sprang up in Playa del Rey, Santa Monica, and Venice.

The Los Angeles County Flood Control District was formed in 1915 to alleviate the flooding that plagued the residents of the coastal plain during wet years. This started the transformation of the first rancho ditches into the system of storm drains, concrete ditches, culverts, and pipes that today stretches over 5,000 miles and carries millions of gallons of water each day directly to the sea.

The speed and magnitude of change occurred in the Bay's watershed in less than 300 years is truly beyond any early settler's imagination. Today, the metropolitan area surrounding the Santa Monica Bay is one of the world's most populous urban areas. According to the 2010 U.S. Census, about 10.8 million people live in the two coastal counties that border Santa Monica Bay, Los Angeles and Ventura Counties. Of that number, almost nine million people live in the Santa Monica Bay watershed (the area served by the three major wastewater treatment plants), and approximately 1.9 million live in the Bay's watershed. Approximately 48 percent of the watershed is characterized as developed. Most of the remaining undeveloped area within the watershed is located within the Santa Monica Mountains National Recreation Area in the northern portion of the watershed.

In addition to residents, the Los Angeles region receives over 45 million visitors per year. The Bay is home to world famous beaches and surf locations. More people can mean more waste, and greater potential for pollutants to enter the Bay through sources like wastewater, urban and storm water runoff, and aerial fallout. More people can also mean more usage and seizure of the Bay's resources through encroachment, harvest, or trampling. Projected population growth into the 21st century will continue to require substantial augmentations to infrastructure and will potentially result in increased pressures on the health of the Bay. However, it is important to recognize the diversity of people who benefit from the Bay's resources, including indigenous Native Tribes, local communities, and visitors. The Bay and its watershed provides a multitude of benefits and values to humans.

Ecological Functions and Resource Uses

Santa Monica Bay and its watershed naturally provide many ecological functions that humans depend upon. Major ecological functions include, but are not limited to, water purification (through absorption and filtration of pollutants), water and sediment transport, flood storage, climate resiliency, and habitats for fish and wildlife. Additional functions buffer the impacts of climate change such as flood and erosion protection, buffering from ocean acidification, carbon sequestration, and many more. When the watershed is able to perform these functions, people benefit because we can then use the resources that we desire, including clean beaches for swimming, healthy seafood for nutrition, protection from flooding, parks to recreate in, and abundant wildlife for observing both above and below the waters of the Bay. Additional details on natural resources can be found in the Natural Resource priority section, below.

Study Area

SMBNEP's Study Area is defined by a watershed boundary and the Bay itself, depicted below (Figure 1). Most of the watershed is located in Los Angeles County and includes many highly developed watersheds as well as a portion of the Santa Monica Mountains. However, management actions and scientific monitoring for our region are often informed by or necessarily include a larger geographic area known as the Southern California Bight (Figure 2). Given the importance of climate change in the new Action Plan (2018) and having habitat reference areas outside of an urbanized area for individual projects, it is important to consider that the region, Bight, and larger oceanic context also serve to inform the SMBNEP's Action Plan as well as the Comprehensive Monitoring Program.



Figure 1. Map of the Santa Monica Bay and its watershed.



Figure 2. Map of the Southern California Bight.

Purpose and Scope of CCMP

The Comprehensive Conservation and Management Plan (CCMP) contains priorities and actions and provides a long-term framework for actions in the Santa Monica Bay and its watershed. It also includes strategies to: monitor progress, finance CCMP implementation, and communicate with stakeholders. The National Estuary Program (NEP) was established by Congress in 1987 to improve the quality of estuaries of national significance and the Santa Monica Bay NEP was established in 1988. The Clean Water Act (CWA) Section 320 directs the United States Environmental Protection Agency (USEPA) to develop plans for attaining or maintaining water quality in an estuary. This includes protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife; protection of public water supplies; preservation of recreational activities in and on the water; and control of point and nonpoint sources of pollution to supplement existing controls as needed. Each individual NEP establishes a CCMP to meet the goals of the CWA.

The CWA Section 320 grant is administered by USEPA and provided to NEPs to carry out CCMP actions and those described in annual work plans. Non-federal grants and matching funds are required by each NEP and SMNBEP's activities are funded from diverse sources secured by the NEP and many partners. SMBNEP serve USEPA's Goal 1: Core Mission – deliver real results to provide Americans with clean air, land, and water. USEPA's FY 2014-2018 Strategic Plan charts a course for the agency and is organized around five key goals, including: addressing climate change and improving air quality; protecting America's waters; cleaning up our communities and advancing sustainable development; ensuring the safety of chemicals and preventing pollution; and enforcing environmental laws. This CCMP includes activities that will contribute to the USEPA Strategic Plan goals as well as the Office of Water National Water Program Guidance. Specifically, SMBNEP contributes to the element of the guidance that states: "EPA will continue to build the capacity within the National Estuary Program to adapt to changes from climate change on the coasts and will provide additional assistance to individual NEPs to support their work to develop adaptation plans for their study areas or technical assistance to support implementation of those plans." Priorities for action were determined by the Management Conference and public stakeholders, and they are similar to those defined in the 2013 Bay Restoration Plan (BRP) with the addition of understanding and adapting to climate change impacts.

Priorities for Action

Three priorities continue to be vitally important for our region, as defined in the 2013 BRP, including improving water quality, conserving and rehabilitating natural resources, and protecting the Bay's benefits and values to people (Figure 3). Given the cross-cutting and multi-benefit nature of most of the projects and programs listed in the Action Plan, the Management Conference decided not to arbitrarily separate out projects based on categorizing them into one of those three priority areas. Instead, they are combined based

on action categories. These three priority areas should be thought of as integrated and supported throughout the CCMP, along with a new priority area, understanding and adapting to climate change impacts. Many of the actions in this plan focus on improving our understanding through filling in data gaps, or helping the region adapt to climate change. Each of these priorities are discussed in further detail below.

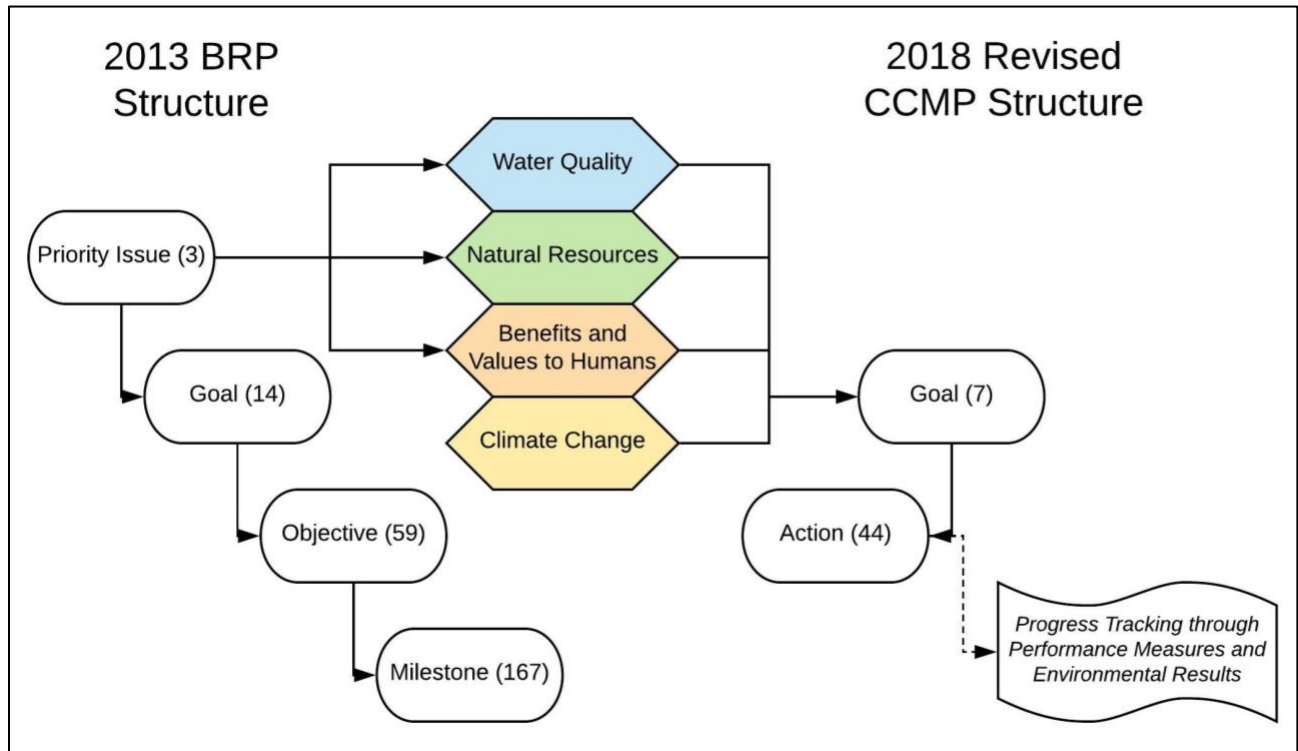


Figure 3. Comparison of 2013 BRP structure and 2018 revised CCMP action plan structure.

The TAC helped to develop seven goals to guide the development of 44 actions. Each action in this plan supports one or more of the following overarching goals:

1. Protect, enhance, and improve ecosystems of Santa Monica Bay and its watersheds
2. Improve water availability
3. Improve water quality
4. Enhance socio-economic benefits to the public
5. Enhance public engagement and education
6. Mitigate impacts and increase resiliency to climate change
7. Improve monitoring and ability to assess effectiveness of management actions

Actions included in the CCMP's Action Plan were also combined into five major action categories defined by the TAC to provide an additional level of organizational Action Plan structure below the goal level. This allowed for a higher level of standardization across the CCMP and a direct tie to the USEPA funding guidance. For example, monitoring and

outreach are each individual categories (4 and 3, respectively). This document will be further supported by additional documents such as the Comprehensive Monitoring Program and the Finance Plan. Action categories include: 1. Direct Management Actions; 2. Governance and Policy; 3. Stakeholder Education and Engagement; 4. Research and Monitoring; and 5. Funding and/or Partnerships. USEPA's requirement of a Habitat Protection and Restoration Plan is integrated throughout the CCMP Action Plan, especially throughout actions in category 1 (Direct Management Actions). The action plan also includes input from the Climate Change Vulnerability Assessment.

Priority Area: Water Quality

Water quality affects all other natural resources and uses in the Bay and watershed. Poor water quality impacts the ability of water bodies to serve as habitat for fish and the invertebrates they feed upon. Degraded water quality also impacts public health. Santa Monica Bay is adjacent to one of the most populous, urbanized coastal metropolitan areas in the United States. With a population of nearly nine million people, Los Angeles County residents utilize the Bay for a wide variety of purposes including the discharge of treated municipal, commercial, and industrial wastes. The Bay has received municipal and industrial wastewater discharges for over 100 years.

As the quality of sewage discharged has significantly improved, storm water and urban runoff have become the most significant source of pollution to Santa Monica Bay. Storm water and urban runoff are transported to the Bay through the region's extensive (5,000 miles county-wide) storm drain system and discharged through more than 200 large and small discharge points without treatment. On its way to Santa Monica Bay, rain water washes, scours and intercepts pollutants from the air and ground; whether it is trash left on the streets or in catch basins, motor oil leaked on highways and parking lots, or heavy metals deposited on vegetation. This process is accelerated by the fact that development increases the imperviousness of the ground and, if not mitigated, increases the volume of runoff.

Significant progress has been made in improving water quality in Santa Monica Bay and the Bay watershed since adoption of the original Bay Restoration Plan in 1995. Major milestones accomplished during the last eighteen years include the completed upgrade to full secondary treatment by the City of LA's Hyperion treatment plant, and LA County's Joint Water Pollution Control Plant (JWPCP), the two largest wastewater treatment facilities in the region, the development and implementation of Total Maximum Daily Loads (TMDLs) for waterbodies impaired by poor water quality in the Bay watershed, installation of more than 30 dry-weather urban runoff diversion or treatment facilities, and adoption and implementation of a low impact development (LID) approach under the municipal storm water (MS4) National Pollutant Discharge Elimination System (NPDES) permit.

Despite the significant progress, much remains to be done before water quality objectives can be met for all waterbodies in the Bay and its watershed. Considerable amounts of pollutants such as trash, pathogens, and heavy metals continue to flow into the ocean through the storm drain system.

Priority Area: Natural Resources

Natural resources are valuable to the health of the ecosystem in which they thrive. Santa Monica Bay, once abundant in many natural resources such as its free-flowing waters and wild steelhead runs, has dramatically changed over the past 300 years. As a result, the natural resources that survive today are more valuable to the ecology of Santa Monica Bay than ever before. Without clean water and productive wetlands, for example, the ocean and the species that thrive within them ultimately suffer. The rehabilitation and conservation of Santa Monica Bay's natural resources is essential to its recovery and future health.

The abundance and diversity of the Bay's natural resources are defined by the habitats of the natural resources. Santa Monica Bay and its watershed are comprised of unique and interrelated habitats which make up the marine, freshwater, or terrestrial ecosystem. Among major types of habitats found in and around the Bay are rocky reefs, kelp forests, rocky intertidal areas, sandy beaches, beach bluffs and dunes, soft bottom, open ocean, deep canyon, coastal wetlands and lagoons, creeks and riparian areas, and coastal scrub. Many of these habitats have been subject to some level of degradation over time due to urbanization, development, and other human activities. However, recent efforts, including work by SMBNEP, have led to the recovery of key areas of some of these habitats, including wetlands, kelp forests, beaches, streams, and other open spaces. Recent projects with substantial accomplishments include but are not limited to: Palos Verdes Kelp Forest Restoration Project, Southern California Abalone Restoration Project, Santa Monica Beach Restoration Pilot Project, Malibu Living Shoreline Project, LAX Dunes Restoration Project, Community Restoration at the Ballona Wetlands Ecological Reserve, Malibu Lagoon Restoration and Enhancement Project, and many more.

Priority Area: Benefits to People

With its natural beauty and rich resources, Santa Monica Bay is one of Southern California's most popular recreation destinations. Nearly 10 million people live within an hour's drive of the Bay. The Bay attracts approximately 40 million visitors each year, including 5.5 million sport fishing trips. Besides its 22 public beaches, the Bay also boasts the world's largest man-made small craft harbor, the 6,000 slip Marina del Rey. Popular recreational activities include: swimming, surfing, sunbathing, biking, sport fishing, diving, boating, kayaking, tidepooling, and whale and bird watching, etc. The adjacent Santa Monica Mountains and waterways are also popular for activities such as hiking, biking, fishing, wildlife viewing, and general sightseeing. By one estimate, the Bay on average generates \$1.08 billion annually for the economy of Southern California. The protection

of the valuable recreational uses of the Bay is a high priority for public agencies and local communities. Management of the Bay's natural resources and recreational opportunities should be balanced between benefits to people, plants, and wildlife.

Priority Area: Climate Change

In 2016, TBF, with support from SMBRC, was awarded a USEPA grant to conduct a broad, risk-based, Climate Change Vulnerability Assessment (CCVA) of the objectives in the 2013 BRP. The CCVA identified risks associated with individual objectives and goals in the 2013 BRP. Additionally, the CCVA identified strengths and weaknesses of existing objectives to manage and adapt to the impacts of climate change. This assessment was used in the development of the CCMP Action Plan (2018), and thus, the CCMP Action Plan is also SMBNEP's Climate Action Plan. Details of the CCVA study and how its results were incorporated into the CCMP Action Plan are included in the following sections.

Climate Change Vulnerability Assessment

Specific project tasks for the CCVA included first developing a literature review of existing applicable models for six different climate change stressors: warmer temperatures, warmer water, sea level rise, increased drought, increased storminess, and ocean acidification. For purposes of the CCVA, a variety of climate change models associated with the six climate change stressors were investigated. Specific climate change models associated with the Santa Monica Bay Watershed region were chosen to inform staff and expert reviewers in the CCVA process. In general, and when available, climate change models were analyzed for current, year 2050, and year 2100 scenarios.

The next step identified a broad set of risks and opportunities associated with each climate change stressor for individual BRP objectives and milestones. The goal of the risk identification step was to generate a broad list of reasonably foreseeable ways that climate change stressors may affect organizational goals. In addition to risks, some potential outcomes were identified as "opportunities." These are circumstances arising from any of the six climate change stressors that may have beneficial effects instead of harmful impacts. In summary, the total number of risks identified as part of the BRP evaluation was 474 across 59 objectives.

The next step included the development of a CCVA Framework by the panel of expert climate scientists, which were then turned into visualizations as a tool that should be broadly interpreted to evaluate the vulnerability of the 2013 BRP at the objective level, to facilitate the future development of action planning and to integrate the results into the CCMP revision process. The framework is illustrated in Figure 4 and an example of the visualization results for 'Goal 2: Improve water quality' is displayed in Figure 5. For full details and results, please reference the [CCVA technical report](#).

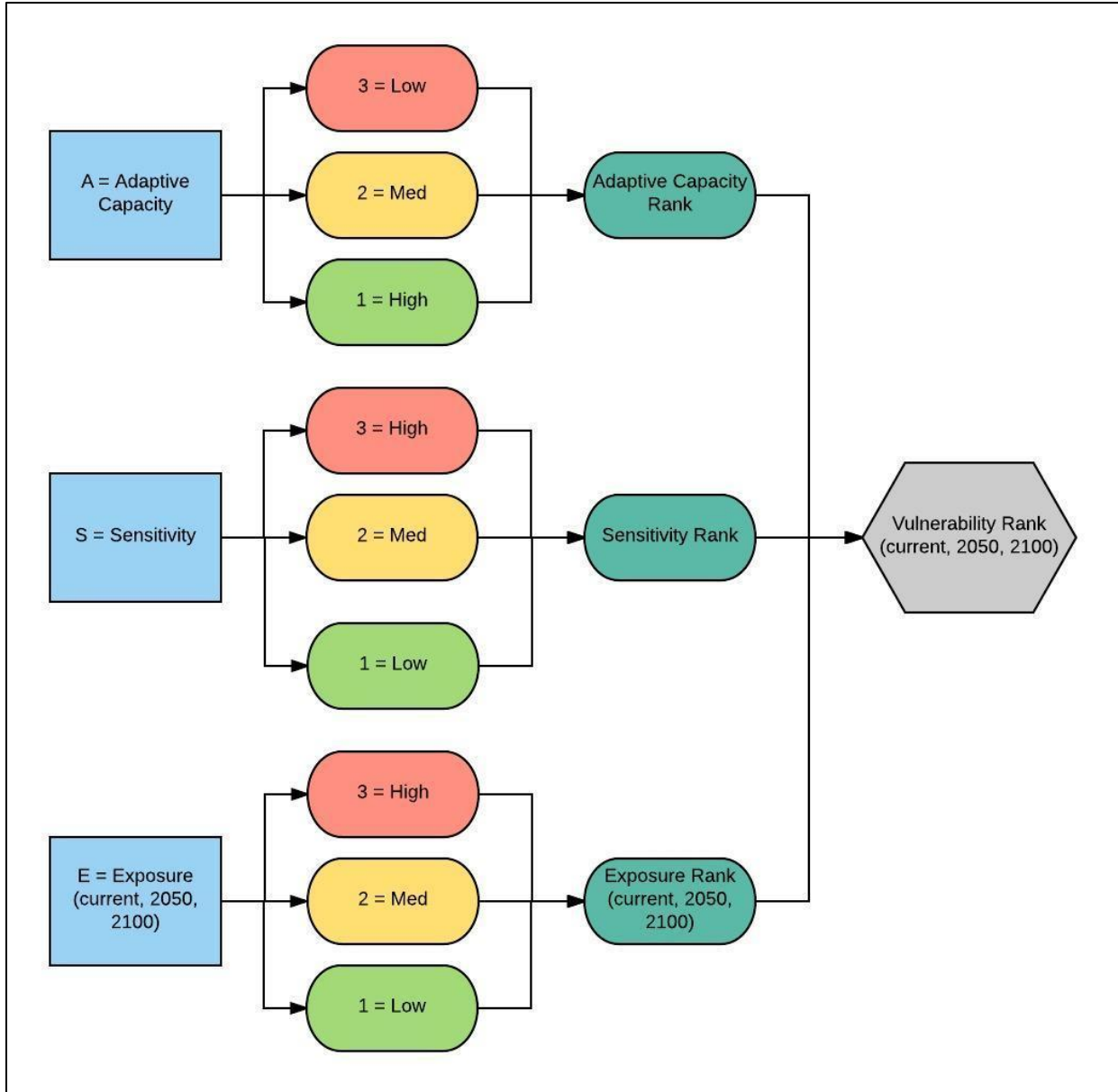


Figure 4. Climate Change Vulnerability Analysis (CCVA) framework and ranking strategy.

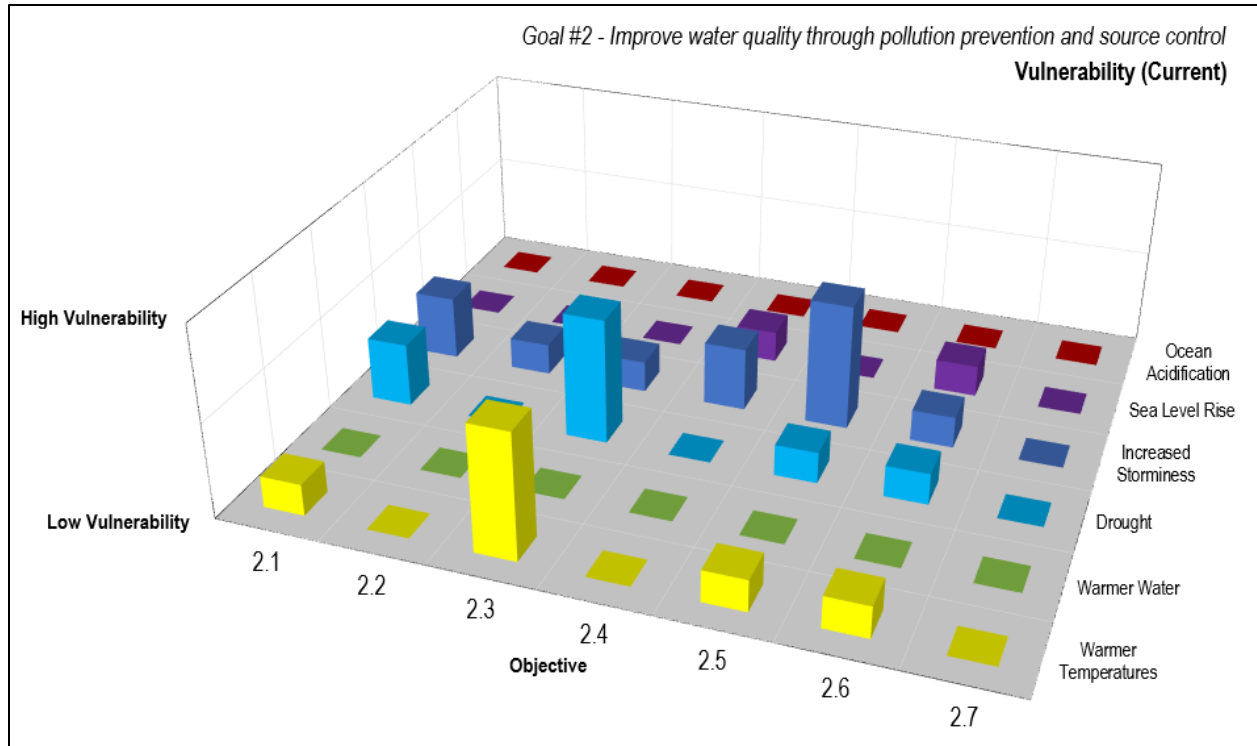


Figure 5. Example visualization from the CCVA Report for Goal 2 – Current Vulnerability.

The overarching results from the vulnerability analysis and the interpretation of the visualizations was highly variable, and often individual and objective-dependent. Interpretations of the vulnerability of objectives that were broader often had more potential associated risks, and therefore a higher susceptibility to vulnerability from one or more climate change stressors. Objectives that were more specific may have had targeted associated risks identified as well as specific stressors. In general, outreach, education, and policy objectives were not very vulnerable and had a high associated adaptive capacity. Objectives or goals that were linked to a vulnerable habitat were often susceptible to multiple climate change stressors that increased the potential vulnerability of that habitat, e.g., objectives related to intertidal habitats and coastal wetlands. Additionally, objectives or goals that were related to a habitat with a low adaptive capacity to a particular stressor were often more vulnerable, e.g., kelp forests and their associated biological communities will have trouble adapting to OA and warmer waters, and the effects of both stressors may interact over time. OA was also identified in many cases as being a data gap, and more research is needed into this stressor to increase the confidence of the vulnerability evaluations for that stressor. For additional information on climate change, refer to the [final CCVA Report](#).

Translation to Climate Action Plan

The CCVA identified vulnerabilities and areas where resilience should be prioritized. These priorities are integrated throughout the CCMP Action Plan (also the Climate Action Plan). This document reflects a climate resiliency focus by addressing specific actions

through project activities. Several steps of the USEPA “Being Prepared for Climate Change Workbook” were followed to translate the CCVA into climate resiliency actions in the CCMP. Contributors to the CCMP Action Plan weighed risks evaluated as part of the CCVA and subsequently established the context for how to incorporate resiliency into the CCMP Action Plan. Partners for various projects were identified and opportunities and constraints of establishing resiliency as components of actions were discussed. Lastly, the NEP weighed all factors of the CCVA and resiliency process and decided on the course of action for each priority and major actions in the CCMP. It was determined that no actions would be ‘avoided’ or dropped due solely to climate vulnerability. Instead, the Management Conference, including the TAC, and public stakeholders recommended prioritizing understanding and responding to climate change impacts and stressors through refining actions in the CCMP and working towards adaptation actions whenever possible.

Major habitat restoration activities that support resilient (adaptive) ecological systems include many CCMP Actions (e.g., Actions #2, 4, 6, 7, 8, 9, 10, 11, 12, and 13). These Actions support resilience across a wide range of habitats such as beaches, dunes, wetlands, kelp forests, and eelgrass habitats, while also providing many additional benefits. These activities intersect with additional activities to support and enhance endangered and threatened species populations, especially those that are at risk of negative climate change impacts such as abalone (e.g., Actions #3, 14, and 15). Proactive activities to lower greenhouse gas emissions and reduce climate change, such as through supporting composting, are also included (Actions #22 and 42). Additional resiliency strategies are highlighted in the form of increasing local water supplies (Actions #17 and 21) and supporting effective governance and policy (Actions #24 and 25). Building resilience is highlighted in improving stakeholder engagement and education on impacts and solutions (Actions #27, 28, and 30) and especially in activities to support the efforts of the most vulnerable communities to achieve healthy habitats, implement green infrastructure, and reduce pollution (Action #28). Activities that will further inform our understanding of climate change impacts on the SMBNEP’s goals and objectives include conducting research and monitoring of mitigation strategies (e.g., Actions #34, 35, 36, and 42), and developing funding and partnerships to further resiliency goals (Action #44).

Need for Revision of CCMP

The USEPA’s NEP Funding Guidance (2020) recommends that an NEP revise its CCMP if any of the following apply: 1) Study Area boundary changes, 2) significant number of actions have been completed, or 3) significant new data or priorities. Additionally, USEPA suggests that a revision should be performed approximately once every 10 years or less. SMBNEP’s CCMP was last revised in 2008 and updated in 2013. SMBNEP’s Management Conference determined the need for a full CCMP revision rather than an update based on the inclusion of new information obtained through monitoring, the 2015 State of the Bay Report, the 2016 Climate Change Vulnerability Assessment Report, and driven by new challenges such as climate change stressors. This document and its Action

Plans represent the aspirations of the many stakeholders in the Bay and its watershed to achieve healthy habitats, clean water, and benefits to people.

Though SMBNEP and their partners have begun to make significant strides in achieving progress towards healthy habitats in some areas, more needs to be done, and new challenges have emerged as priorities for our region, including climate change. Since the CCVA in 2016, it is important to revise and re-prioritize actions for the Bay and its watershed in the context of climate change stressors. The 2018 Action Plan incorporated revisions to projects or needs based on climate data for our region as well as adaptation strategies. Those programs or projects that had high levels of adaptive capacity were also prioritized. No goals were found to be unobtainable due to climate change stressors. Additionally, the 2015 State of the Bay Report informed the revision need by identifying major data gaps and recommending management actions for those habitats with declining condition trends.

Development of CCMP and History

In 1995, the first Bay Restoration Plan (BRP) was developed and adopted through a public process. It was revised in 2008 and then updated in 2013. The 2013 BRP was renamed to the Comprehensive Conservation and Management Plan (CCMP) to increase consistency with other NEPs throughout the country and with USEPA guidance documents. The new Action Plan component of the CCMP was approved by the SMBNEP's Policy Committee (SMBRC's Governing Board) in October 2018. This new Action Plan replaces the previous Bay Restoration Plan (2013) but includes many of the same priorities and key actions for our region. It builds upon previous successes and completions of 2013 BRP objectives and includes a comprehensive set of actions to help begin mitigation of climate change impacts and stressors in our region.

This document contains supplemental information to the CCMP Action Plan that was approved by SMBNEP's Policy Committee in October 2018. In addition to this Introduction Chapter (2021), the Action Plan (2018), and resulting appendices for both, there are two additional stand-alone documents, which include the Finance Plan (2019) and the Comprehensive Monitoring Program (CMP, 2021) (Figure 6). The CMP revision process was largely driven by the TAC and additional expert scientists across a variety of habitats. Components of the Action Plan include "Habitat Protection and Restoration Plan" elements, "Climate Resilience Action Plan" elements, and "Communication and Outreach Plan" elements (Figure 6).

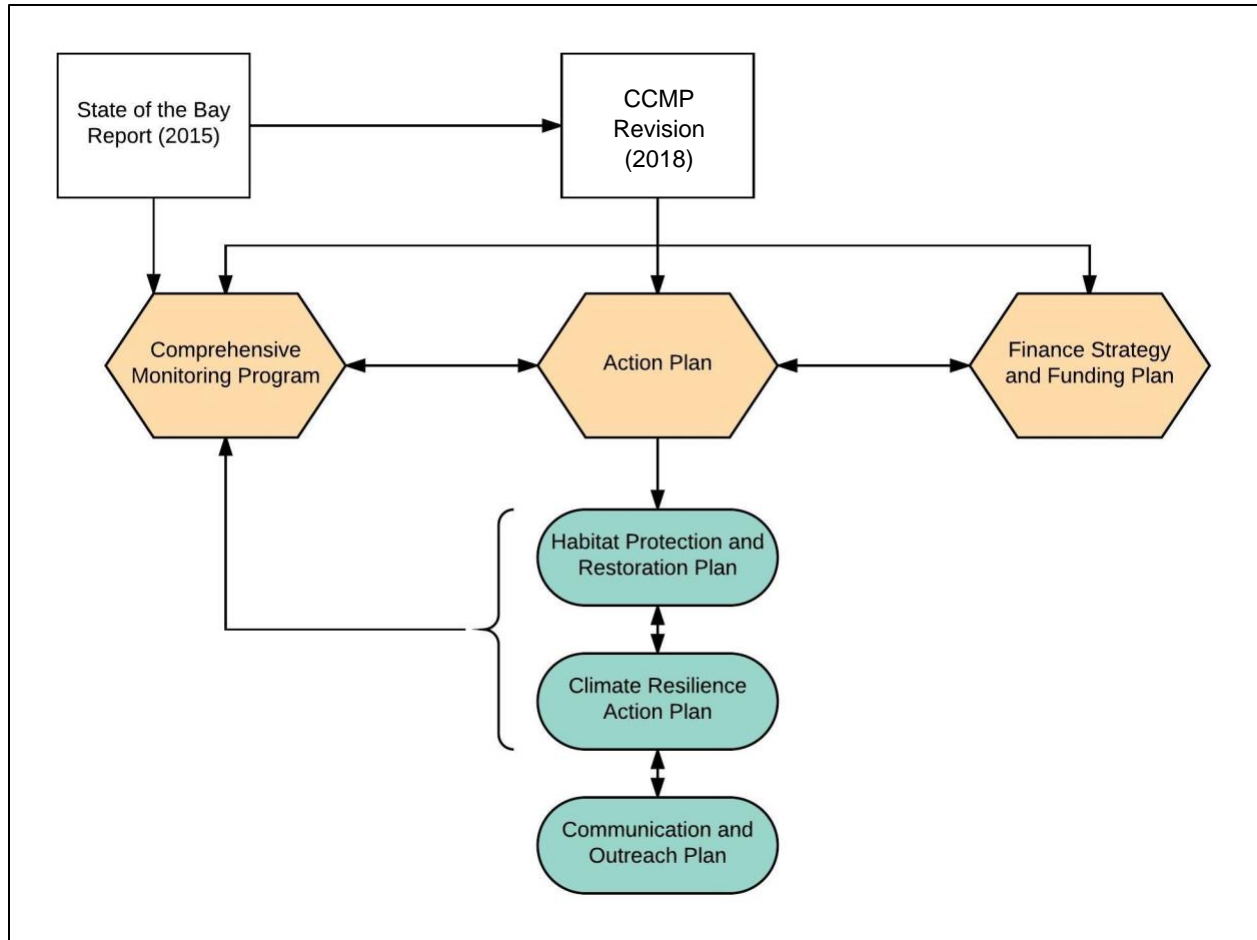


Figure 6. Elements of the Comprehensive Conservation and Management Plan and their interactions.

Changes since 2013 BRP

A full assessment of completed milestones from the 2013 BRP was conducted prior to and during the revision process for the CCMP. A majority of the milestones were found to be ongoing (127), and many of them were rolled into the new Action Plan of the CCMP. Twenty-six of the milestones were completed since the initiation of the 2013 BRP, including but not limited to: Clean Water funding mechanism, implementing the CCVA, several monitoring programs, initiating beach projects, a pilot abalone restoration project, restoration of Malibu Lagoon, etc. Appendix A of the CCMP Action Plan contains a crosswalk from the 2013 BRP (at the objective-level) to the action level of this Action Plan as well as a categorical summary of which current Management Conference entity provided specific recommendations to support individual actions. Appendix A to this document contains a summary table of all 2013 BRP goals, objectives, and milestones as well as their completion status as the time of this report (February 2021). Figure 7 summarizes the percent of milestones completed, ongoing, or not initiated for each of the three 2013 BRP priority areas. Appendix B contains a summary table with a crosswalk between various CCMP elements and the USEPA funding guidance requirements.

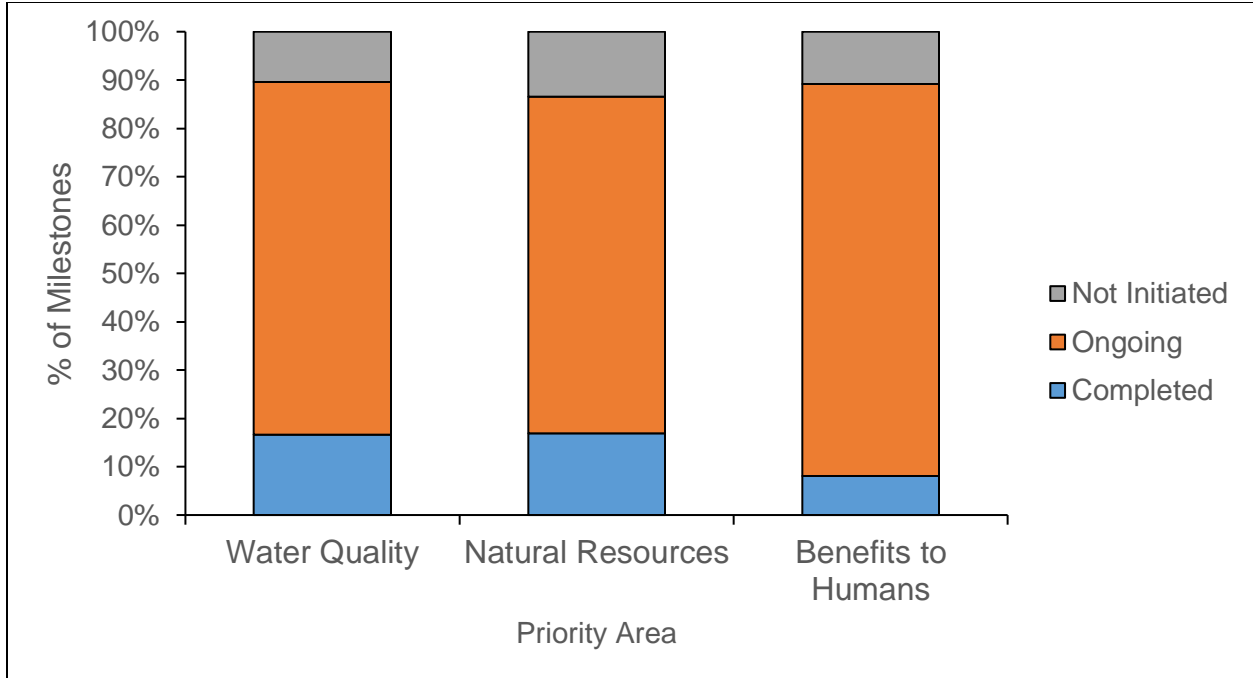


Figure 7. Percent of milestones completed, ongoing, or not initiated for each 2013 BRP priority area.

CCMP Revision Process

Throughout the two-year revision process, eight public workshops were conducted, and multiple public surveys were distributed and compiled to inform the revision process. Dozens of individuals and entities contributed, including many interested members of the public not affiliated with the SMBNEP Management Conference. This public process undertook an in depth and phased approach beginning with the first phase to evaluate and determine priority areas for the revised CCMP (Figure 8). The second phase started defining actions for our region, incorporating climate change planning and management actions into the list. This process received input from the Governing Board, TAC, and the Watershed Advisory Council as well as interested public stakeholders. During this phase, the progress tracking framework and environmental outcomes were also discussed. The third phase held a final series of workshops to continue action planning as well as public review period for a draft CCMP Action Plan by SMBNEP’s Management Conference and members of the public. A redline edited version was prepared as well as a final ‘clean’ version of the Action Plan. Lastly, a document entitled “CCMP Action Plan Comments and Responses, Oct 2018” was also written including all written comments received as part of the CCMP revision process and responses to each comment. Separate engagement of the TAC occurred during public meetings for the Comprehensive Monitoring Program (CMP, see subsection below).

This plan was approved in October 2018 unanimously by SMBRC’s Governing Board. Concurrently with the development of this supplemental chapter for the CCMP,

discussions and facilitated workshops were held to evaluate the governance structure of SMBNEP’s Management Conference, its membership, and how these entities support the implementation of the CCMP Action Plan.

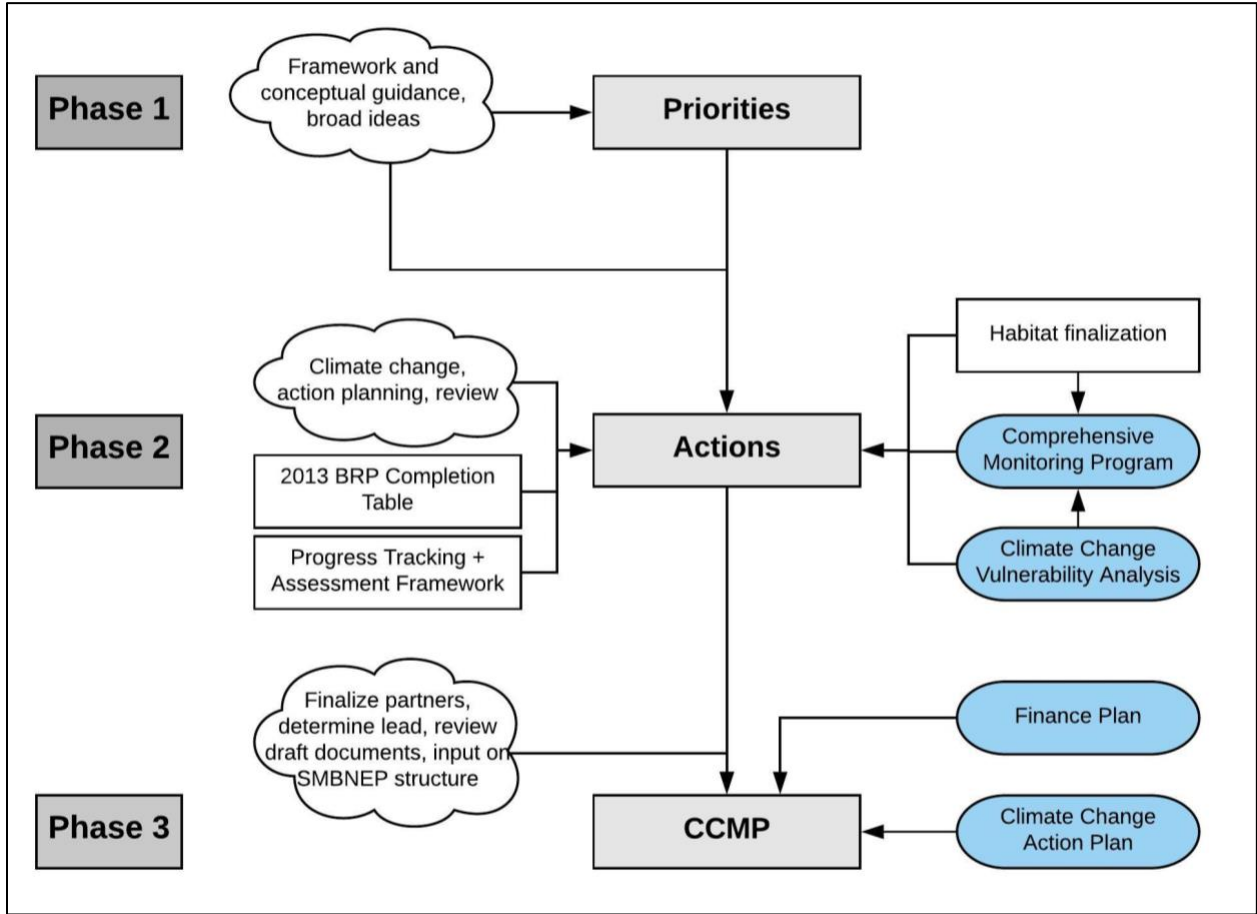


Figure 8. Process flowchart for the CCMP revision including three primary phases.

SMBNEP Governance Structure Revision

One component of the CCMP revision process was to consider the governance structure of the NEP’s Management Conference. In 2020, SMBRC revised their Memorandum of Understanding (MOU) as part of the CCMP revision. The purpose of the MOU was to set forth the agreement among the Secretary for the California Environmental Protection Agency, the Secretary for the California Natural Resources Agency, and the Chairperson of the Governing Board of the Commission, pursuant to the provisions of California Public Resources Code section 30988.2, subdivision (b)(1), to establish and implement an effective and efficient governance structure to ensure the success of the Santa Monica Bay NEP. The [final MOU](#) was approved by the NEP’s Management Conference in June 2020 after completing a substantial public process and incorporating feedback.

The MOU states that the SMBRC’s Governing Board is responsible for approving revisions and updates to the CCMP and Santa Monica Bay NEP Annual Work Plans. The

Executive Committee may provide oversight and direction to the TAC and Commission staff as needed to develop and make recommendations to the Governing Board regarding the development of revisions and updates to the CCMP. Santa Monica Bay Stakeholders are encouraged to stay informed and engaged with Commission activities; provide information and input to inform the Commission's decision-making processes; attend Commission meetings [e.g., Governing Board, Executive Committee, TAC, and annual stakeholder workshop(s)]; and provide comments during public forum. In addition, the Commission shall endeavor to host at least one public workshop every year to disseminate information to the Santa Monica Bay Stakeholders on the activities of the Commission and to consider public input on revisions and updates to the CCMP. The Workshop(s) may be held in conjunction with the Governing Board, Executive Committee, and/or TAC meetings. The Workshop(s) shall be an open and neutral forum for discussion and consensus building. The Workshop(s) shall be publicly noticed and chaired by the Governing Board Chair or Vice-chair.

Consistent with Public Resources Code section 30988.2, the State Water Board provides administrative services to the Commission. The State Water Board meets this legislative requirement by providing Commission staff including a Chief Administrative Director that may perform the following roles and functions including, but not limited to, supporting the development and implementation of the Santa Monica Bay NEP Annual Work Plan and revisions and updates to the CCMP.

Comprehensive Monitoring Program Revision

The Comprehensive Monitoring Program (CMP) underwent a substantial overhaul led by SMBRC's TAC and external expert scientists across a time period of approximately two years. The CMP is a standalone document projected to be completed in April 2021 and will be publicly released on the SMBNEP webpage. The TAC first determined that the habitats identified in the 2015 State of the Bay Report (SotB) were the most appropriate to continue on into the revised CMP. Several additional habitats were considered and rejected, with the final seven continuing from the 2015 SotB, including: wetlands, freshwater / riparian, sandy shores, rocky intertidal, rocky subtidal, pelagic, and soft bottom. The TAC engaged expert external scientists for each habitat in the form of individual working groups to compile priority indicators and metrics of evaluation for each habitat type. The TAC and working groups subsequently compiled and summarized existing monitoring programs that were collecting data in support of the various indicators for each habitat. The number of indicators for each habitat ranged from 13-19 and were categorized into the same four categories for each habitat, including: habitat extent, biological or ecological condition, stressors, and climate vulnerability. Further details for the CMP are available in the standalone document.

Habitat Protection and Restoration Strategy

SMBNEP's "Habitat Protection and Restoration Strategy" is included in the 2018 CCMP Action Plan. Within the Action Plan, there are many specific actions categorized as "Direct Management Actions" and those actions with next steps related to individual habitats. These include priority actions such as Action #1: acquire open space for preservation of habitat and ecological services, Action #2: restore kelp forests in the Bay to improve the extent and condition of the habitat, and many others. The diversity of habitats covered focuses on the same seven categories of habitats identified by the TAC in the Comprehensive Monitoring Program, including pelagic, soft bottom, freshwater and riparian, coastal wetlands, sandy shores, rocky intertidal, and rocky subtidal. Direct Management Actions are identified as Actions #1-18 (focused within pages 5-23), though many other actions contain elements of habitat protection or restoration, especially as related to understanding and adapting to climate change (see climate change subsection above). These Actions in the CCMP Action Plan were developed by incorporating information from the climate change vulnerability assessment completed in 2016 (CCVA 2016) and with subsequent recommendations by the Management Conference.

Communication and Outreach Strategy

SMBNEP's "Communication and Outreach Strategy" is included in the 2018 CCMP Action Plan. Within the Action Plan, there are many specific actions categorized as "Stakeholder Engagement and Education" (i.e., Actions #26-32). These include priority actions such as Action #27: produce educational resources and materials and conduct outreach to improve best management practices for Southern California boaters, and Action #28: support efforts of disadvantaged communities to achieve healthy habitats, implement green infrastructure, and reduce pollution. In addition to the category of actions dedicated specifically to outreach and communication strategies, many of the individual actions in other categories (e.g., Direct Management Actions) also contain in depth communication elements. For example, in Action #6: restore coastal strand and foredune habitat to beaches and sandy shores, implementation of these projects requires substantial outreach and communication in the form of public workshops, webinars, soliciting stakeholder feedback in restoration plans, public meetings and tours, public documents, social media outreach, developing project webpages, and many more elements. Thus, the communications strategies are embedded throughout the 2018 Action Plan and identified as a priority focus and goal.

Acknowledgements

We express our deep gratitude to all stakeholders who provided input during the Bay Restoration Plan revision process to achieve our new Comprehensive Conservation and Management Plan and its Action Plan components. Your thoughtful and significant comments, notes, and expertise helped improve this document and increased its relevancy to our region. Eight public workshops were conducted, and multiple public surveys were distributed and compiled to inform the revision process. Additional public input occurred for the MOU and CMP revisions. Dozens of individuals and entities contributed, and special thanks are due to the members of the Governing Board, Executive Committee, Watershed Advisory Council, Technical Advisory Committee, and interested members of the public. Thank you for making the Comprehensive Conservation and Management Plan possible.

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Appendix A: 2013 BRP Summary

Appendix A contains a summary table of all 2013 Bay Restoration Plan (BRP) goals, objectives, and milestones as well as their completion status as the time of this report (February 2021). Note that the 2013 BRP information included below is to allow for an evaluation of completed historical milestones. The 2018 CCMP Action Plan contains the revised priority actions for SMBNEP.

SECTION I: WATER QUALITY

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 1: Improve water quality through treatment or elimination of pollutant discharges regulated under the current federal and state regulatory framework	1.1. Attain water quality goals in TMDLs adopted for 303(d) listed waterbodies in the Santa Monica Bay watershed.	1.1a. Update existing TMDLs and determine the need for development of TMDLs for the remaining 303(d) listed waterbodies in the Santa Monica Bay watershed.	2023	LARWQCB, USEPA	LA County and watershed cities	Facilitate and support	Ongoing
		1.1b. Facilitate achievement of TMDL waste load and load allocation targets through implementation of enhanced watershed management plans under the MS4 permit by 2021.	2021	LARWQCB, LA County and watershed cities	Other permitted dischargers	Facilitate, promote, support	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		1.1c. Achieve TMDL waste load and load allocation targets with prioritization of TMDLs with near-term deadlines for waterbodies in the Santa Monica Bay watershed.	----	LA County and watershed cities	LARWQCB	Facilitate and support	Ongoing
		1.1d. Facilitate and support TMDL implementation through progress and achievement recognition and information sharing on effective and successful implementation approaches and tools by 2018.	2018	SMBRC	LA County and watershed cities, LARWQCB	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		1.1e. Facilitate research and assessment that inform more accurate waste load allocation and development of new water, sediment and biological objectives by 2018.	2018	SMBRC	LARWQCB, SWRCB	Lead	Not Initiated
	1.2. Eliminate and prevent water and sediment quality impairments fB11:N13	1.2a. Complete development of the Malibu Creek nutrient and benthic TMDLs and the TMDL implementation plan with enhanced stakeholder participation by 2014.	2014	USEPA, LARWQCB	LVMWD, Malibu watershed cities, park agencies in the Santa Monica Mountains Area	Facilitate and provide technical assistance	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		1.2b. Facilitate achievement of TMDL allocation targets through new nonpoint source control measures such as improved fertilizer management in the Malibu Creek watershed by 2020.	2020	LVMWD, Malibu watershed cities, park agencies in the Santa Monica Mountains Area	----	Promote	Ongoing
		1.2c. Conduct additional monitoring and studies to evaluate factors from both upper and lower watershed that affect algal growth and benthic macroinvertebrate impairments in Malibu Creek by 2015.	2015	LVMWD, Malibu watershed cities, park agencies in the Santa Monica Mountains Area	RWQCB, USEPA	Support	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
<p># 1: Improve water quality through treatment or elimination of pollutant discharges regulated under the current federal and state regulatory framework</p>	<p>1.3. Eliminate biological impacts of water intake and discharge from coastal power and desalination plants.</p>	<p>1.3a. Phase out the use of once-through cooling. Complete conversion of the existing facilities by the State-approved deadline for individual facilities no later than 2021.</p>	<p>No later than 2021</p>	<p>LARWQCB, Coastal power plant owners (City of LA DWP, NRG, etc.)</p>	<p>SWRCB, State Energy Commission, NMFS</p>	<p>Facilitate and support</p>	<p>Ongoing</p>
		<p>1.3b. Develop and adopt policies to address potential impacts of water intake and brine discharge from desalination facilities by 2014.</p>	<p>2014</p>	<p>SWRCB</p>	<p>LARWQCB, Water Districts</p>	<p>Support</p>	<p>Completed</p>

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	1.4. Eliminate all harmful discharges to Areas of Special Biological Significance (ASBS)	1.4a. Evaluate the effectiveness of non-storm water discharge prohibition from municipal drains and the effect of conditional Exceptions. Update existing strategy and policy for eliminating harmful discharge to ASBS by 2018.	2018	SWRCB	LARWQCB, City of Malibu, LA County, State Parks, Caltrans	Support	Completed
		1.4b. Eliminate all identified harmful discharges to ASBS in the Bay by 2018.	2018	SWRCB	LARWQCB, City of Malibu, LA County, State Parks, Caltrans	Support	Ongoing
	1.5. Institute a reliable regional funding mechanism for storm water quality improvement	1.5a. Facilitate adoption of a reliable County-wide Clean Water and Clean Beach funding mechanism through a property assessment fee by 2014.	2014	LA County	Watershed cities	Facilitate and support	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		1.5b. Support Proposition 218 reform and implement other financing mechanisms to provide local governments with funds for storm water programs.	----	LA County	Watershed cities, MRCA	Participate, support	Completed
	1.6. Reduce and prevent non-storm water runoff from urban land uses	1.6a. Promote good practice and measures through information exchange for reducing or preventing non-storm water runoff.	----	Watershed cities, LA County	Local water districts	Support	Ongoing
		1.6b. Improve enforcement of local prohibitions and MS4 permit requirements on non-storm water runoff	----	Watershed cities, LA County	LARWQCB	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 1: Improve water quality through treatment or elimination of pollutant discharges regulated under the current federal and state regulatory framework	1.7. Eliminate nonpoint pollution from on-site wastewater disposal systems (OWDSs)	1.7a. Implement the septic prohibition regulation for the Malibu Civic Center area and complete construction of the centralized wastewater treatment facility for civic center with advanced tertiary treatment and water recycling capability by 2019.	2019	City of Malibu	LARWQCB	Promote	Ongoing
		1.7b. Achieve full compliance of waste discharge requirements (WDRs) issued by the LARWQCB for all multi-family and commercial establishments in northern Santa Monica Bay watershed by 2016.	2016	LARWQCB, City of Malibu, City of LA, LA County	----	Facilitate and promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		1.7c. Fully Implement a permitting program as laid out under the MOU between LARWQCB and local agencies for operation, inspection, and monitoring of OWTS by 2016.	2016	City of Malibu, City of LA, LA County	LARWQCB	Promote	Ongoing
		1.7d. Facilitate implementation of the State on-site wastewater treatment policy with more stringent requirements in environmentally sensitive areas and near impaired water bodies by 2018.	2018	City of Malibu, City of LA, LA County, park management agencies	SWRCB, LARWQCB	Promote	Not Initiated

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 2: Improve water quality through pollution prevention and source control	2.1. Increase pervious surfaces and storm water infiltration where feasible by supporting green infrastructure	2.1a. Adopt green street and LID ordinances by all watershed cities by 2015.	2015	Watershed cities, LA County	LARWQCB	Promote	Ongoing
		2.1b. Incorporate green infrastructure elements, e.g., biofiltration and rain gardens, into the standard street design and maintenance practices by 2015.	2015	LA County, watershed cities, State DPR, State Conservancies, park agencies.	----	Promote	Ongoing
		2.1c. Establish municipal and/or state standards for use of green infrastructure Ensure new LID standards are incorporated into local development plans and building codes by 2016.	2016	LA County, Watershed cities	----	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 2: Improve water quality through pollution prevention and source control	2.1. Increase pervious surfaces and storm water infiltration where feasible by supporting green infrastructure	2.1d. Implement and fund more LID projects such as new rain barrel program and rain gardens. Install 2 acres of rain gardens in the Santa Monica Bay Watersheds by 2016.	2016	TBF, SMBRC, Watershed cities, LA County	----	Lead	Ongoing
		2.1e. Expand the downspout disconnection and rain barrel projects throughout the watershed	----	Watershed cities, LA County	----	Facilitate	Ongoing
		2.1f. Develop by 2015 and implement LID master plans for public-owned open space properties in the Santa Monica Mountains.	2015	SMBRC	All park and open space management agencies	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		2.1g. Collect data to map and track LID implementation. Conduct analysis to determine the cumulative benefits and effectiveness of LID implementation and evaluate suitability of LIDs for different settings and conditions.	----	SMBRC	LA County and watershed cities, LARWQCB	Lead	Ongoing
	2.2. Reduce generation of trash through restricting and reducing the use of disposable plastics and polystyrene products	2.2a. Support State-wide bans or establish fees on plastic and polystyrene fast-food containers and plastic bags at all retail stores by 2015.	2015	State Legislature	LA County, watershed cities	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		2.2b. Adopt bans or establish fees on plastic and polystyrene fast-food containers and plastic bags at all retail stores by all watershed cities by 2015	2015	Watershed cities	----	Promote	Ongoing
		2.2c. Promote take back and packaging minimization programs.	----	CalEPA, LA County and watershed cities	Private business	Support	Ongoing
	2.3. Reduce aerial deposition of storm water pollutants to the Bay and the Bay watershed	2.3a. Conduct further studies to estimate airborne pollutant loading from area-specific sources (e.g., LAX).	----	SWRCB, CARB	----	Facilitate and support	Not Initiated
		2.3b. Improve coordination and collaboration between SWRCB and CARB to address specific sources of airborne pollutant loading such as brake pad.	----	SWRCB, CARB	LARWQCB	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
<p># 2: Improve water quality through pollution prevention and source control</p>	<p>2.4. Reduce pollution from commercial and recreational boating activities</p>	<p>2.4a. Continue to support alternative boat sewage management strategies such as require mobile pumpout services as part of standard lease agreements, institute marina wide mobile pumpout program, install stationary pumpout facilities, etc.</p>	<p>----</p>	<p>LAC-DBH, City of Redondo Beach</p>	<p>TBF, Marina operators</p>	<p>Facilitate</p>	<p>Ongoing</p>
		<p>2.4b. Increase amount of recycling and increase opportunities for recycling boat related household hazardous waste.</p>	<p>----</p>	<p>LAC-DBH, City of Redondo Beach</p>	<p>SMBRC, TBF</p>	<p>Participate</p>	<p>Ongoing</p>

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		2.4c. Increase number of monofilament fishing line recycling and installation of collection units throughout Santa Monica Bay.	----	LAC-DBH, harbor management	California Coastal Commission, Department of Boating and Waterways, Coastal Guards	Participate	Ongoing
		2.4d. Increase outreach and education opportunities regarding sustainable boating on inland lakes.	----	TBF	California Coastal Commission, Department of Boating and Waterways, lake management	Lead	Not Initiated
	2.5. Reduce discharge of trash, oil and grease, and other pollutants from commercial and other high density areas	2.5a. Promote and expand the restaurant certification program, and achieve participation by all watershed cities by 2016	2016	TBF	Watershed cities	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		2.5b: Install more catchbasin screening and infiltration devices at high trash generating areas by 2018.	2018	Watershed cities, LA County, park and beach agencies, Caltrans	----	Promote	Ongoing
		2.5c. Install more energy-efficient, overflow-safe trash cans such as solar-powered trash and recycling compactors in selected high-trash areas of the watershed by 2018.	2018	Watershed cities, LA County, park agencies, Caltrans	----	Promote	Ongoing
		2.5d. Reduce disposal of cigarette butt through installation of more receptacles and educational message at all smoke-permitted outdoor areas	----	Watershed cities, LA County, park and beach agencies, Caltrans	----	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 2: Improve water quality through pollution prevention and source control	2.6. Sustain and expand annual Coastal Cleanup	2.6a. Sustain the annual Coastal Cleanup Day in Santa Monica Bay	----	TBF, Heal the Bay	----	Lead	Completed
		2.6b. Sustain inland cleanups as part of Coastal Cleanup Day efforts	----	Heal the Bay	----	Facilitate	Ongoing
	2.7. Increase public awareness through Public Involvement and Education (PIE) mini-grant program	2.7a. Initiate a new round of PIE program at least every three years.	2023	SMBRC	LARWQCB, private businesses	Lead	Not Initiated
# 3: Address potential impacts of emerging contaminants	3.1. Institutionalize monitoring of emerging contaminants	3.1a. Compile an inventory of relevant research and continue carrying out studies to assess the potential biological effects of emerging contaminants (e.g., bioaccumulation in locally caught fish).	----	EPA, SWRCB	LARWQCB, LACSD, City of LA B. of Sanitation, SCCWRP	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		3.1b. Standardize analysis methods for emerging contaminants	----	EPA, SWRCB, State Dept. of Public Health	LARWQCB, LACSD, City of LA B. of Sanitation, Water Districts	Promote	Ongoing
		3.1c. Add emerging contaminants to monitoring plans required under NPDES permits .	----	LARWQCB	LACSD, City of LA Bureau of Sanitation, storm water monitoring agencies	Promote	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	3.2. Reduce loading of emerging contaminants in waterways	3.2a. Enhance existing education programs to reduce household disposal of pharmaceutical products into the sewer system (e.g., no drugs down the drain), and promote an extended producer responsibility (e.g., pharmaceuticals take-back) program	----	LACSD, City of LA B. of San. Water Districts	Private business (pharmacies)	Promote	Ongoing
		3.2b. Identify a list of emerging contaminants of concern. Enact state legislation to ban certain contaminants or replace with alternative products.	----	EPA, SWRCB, State Dept. of Public Health	LARWQCB, SCCWRP, LACSD, City of LA B. of San.	Promote	Ongoing

SECTION II. NATURAL RESOURCES

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 4: Create / support policies and programs to protect natural resources	4.1. Facilitate development and adoption of natural stream protection ordinances and/or policies	4.1a. Adopt stream protection ordinances or policies by affected Santa Monica Bay watershed cities by 2016	2016	Watershed cities, LA County	Park agencies	Facilitate	Ongoing
		4.1b. Conduct education and outreach on the multiple benefits of natural streams in urban environments	----	SMBRC, TBF	Watershed cities, Water Districts	Lead	Ongoing
		4.1c. Adopt/update and implement a hydromodification policy through the renewed municipal stormwater permits by 2015.	2015	LARWQCB	SWRCB, LA County	Promote	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	4.2. Enhance assessment and effective management of Marine Protected Areas in the Bay	4.2a. Promote an adaptive MPA management strategy. Develop and implement MPA Master Plan, management guidances, and enforcement plans by 2015.	2015	DFW	----	Facilitate	Ongoing
		4.2b. Participate in the development of MPA community collaborative for the LA area by 2015.	2015	Natural Resources Agency	----	Participate and facilitate	Completed
		4.2c. Participate in MPA monitoring including long-term habitat surveys and future MPA assessment by 2017.	2017	MPA Monitoring Enterprise	Ocean Science Trust (OST), OPC (funding) DFW	Participate	Completed
		4.2d. Conduct aerial surveys of fishing activities inside and outside MPAs.	----	TBF	DFW	Lead	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	4.3. Evaluate and establish additional management measures to improve protection of fishery resources.	4.3a. Develop reliable streams of data to support effective fishery management. Conduct stock assessment for fish and invertebrate species with heavy fishing pressures (e.g., California halibut, rock fish spp. thornyheads, red sea urchin, market squid) by 2020.	2020	DFW, NMFS	OPC	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.3b. Develop and conduct assessment on localized impacts of recreational fishing compared to commercial fishing, inside and outside the Santa Monica Bay commercial fishing closure (especially for spiny lobster, sandbass/kelp bass, CA halibut, rockfish) by 2018.	2018	DFW, NMFS	----	Promote	Not Initiated
# 4: Create / support policies and programs to protect natural resources	4.3. Evaluate and establish additional management measures to improve protection of fishery resources.	4.3c. Develop and implement fishery management plans (FMPs) for high priority fisheries especially spiny lobster and California halibut. Identify additional fish stocks for FMP development by 2015.	2015	DFW, FW Commission	PSMFC	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.3d. Assess the habitat impacts of bycatch and trawl, set gillnet, and set longline gear (especially in thornyheads, white seabass, and California halibut fisheries).	2020	SMBRC	DFW, FG Commission	Lead	Not Initiated
		4.3e. Implement studies to evaluate effectiveness of Santa Monica Bay commercial fishing closure by 2015.	2015	SMBRC	----	Lead	Not Initiated
		4.3f. Promote outreach to and involvement by fishermen regarding fishery management issues by 2015.	2015	SMBRC	DFW, FG Commission, Local fisherman groups	Lead	Ongoing
		4.3g. Increase presence and effectiveness of local wardens by 2015.	2015	DFW	FG Commission	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.3h. Develop and improve labeling requirements for seafood and implement program to attain compliance (esp. for rockfish).	----	LA County Public Health Department, California Department of Public Health, FDA	USDA, private business	Promote	Not Initiated
		4.3i. Improve and streamline scientific collection permitting process. Establish more stringent restriction on collection of native species such as Giant keyhole limpet that are exploited for non-fishery purposes (e.g., pharmaceutical and aquarium trade).	----	DFW, CFGC	Aquariums, cities and counties with protected tidepools	Promote	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	4.4. Promote and create programs to increase the supply of healthy local sustainable seafood	4.4a. Build markets for contaminant free, local, sustainable seafood products. Bring important local fisheries (e.g., market squid, sardine, spot prawn, sea urchin, thornyhead) up to "best choice" ratings.	----	MB Seafood Watch	DFW, FW Commission, LB AoP, LA Food Policy Working Group, respective commercial fishing groups, Heal the Bay, LAW, USC Sea Grant	Facilitate	Ongoing
		4.4b. Assess contamination loads in locally caught and farmed seafood products.	----	EPA	MSRP, LACSD, SCCWRP	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 4: Create / support policies and programs to protect natural resources	4.4. Promote and create programs to increase the supply of healthy local sustainable seafood	4.4c. Evaluate and create programs to develop sustainable healthy aquaculture options for seafood while protecting local, sustainable, wild capture fisheries. Develop local policy on aquaculture practices, site selection, and species selection by 2020.	2020	DFW, NMFS, FW Commission	----	Facilitate	Ongoing
	4.5. Evaluate and address potential impacts of climate change on Santa Monica Bay	4.5a. Expand the pilot Climate Ready Estuary project and conduct additional vulnerability assessment.	----	Coastal cities, LA County, SPR	OPC, California Coastal Commission, California Coastal Conservancy	Facilitate	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.5b. Participate in and facilitate regional collaboration such as LARC. Facilitate development of climate change adaptation plans. Facilitate coordination among coastal jurisdictions for integration of adaptation plans in the Bay coastal watershed.	----	Coastal cities, LA County, SPR	OPC, California Coastal Commission, California Coastal Conservancy	Facilitate	Ongoing
		4.5c. Promote adaptation strategies using environmentally friendly "soft" solutions or other solutions with minimum negative environmental impacts. Promote establishment of buffer zones.	----	Coastal cities, LA County, SPR	OPC, California Coastal Commission, California Coastal Conservancy	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	4.6. Facilitate and coordinate water quality improvement and habitat restoration programs in key subwatersheds	4.6a. Facilitate coordination of activities for Ballona Creek & Malibu Watersheds through IRWMP, TAC, and other stakeholders' planning and project development efforts.	2018	SMBRC, RCDSMM, LA County	Dept of Conservation	Facilitate	Ongoing
		4.6b. Facilitate or conduct more research on assessment of habitat impacts and effects of various watershed attributes.	----	LA County, watershed cities, LARWQCB, SCCWRP, local universities	----	Facilitate	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.6c. Promote or conduct more citizen monitoring and variety of public events to demonstrate benefits of water quality improvement, values of natural habitats, and watershed connectivity.	----	SMBRC	LA County, watershed cities, RCDSMM, CBOs, environmental organizations	Lead	Ongoing
# 4: Create / support policies and programs to protect natural resources	4.7. Implement a Comprehensive Bay Monitoring Program	4.7a: Participate in regional monitoring programs including Bight-wide regional surveys and regional wetland monitoring program development and implementation.	----	SMBRC, TBF	LARWQCB, EPA, SCCWRP, DFW, CSUCI	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.7b. Incorporate Bay comprehensive monitoring designs into monitoring requirements under NPDES permits.	----	LARWQCB	EPA, NPDES permittees	Facilitate	Ongoing
		4.7c. Establish a coordination structure, including a stable “funding pool” to ensure long-term implementation of the monitoring program.	----	SMBRC	LARWQCB, USEPA, SCCWRP, NPDES permittees, DFW	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		4.7d. Update the Comprehensive Monitoring Program with monitoring designs for habitats in the Bay watershed. Facilitate development of habitat health condition indices, including the application of biological and sediment quality objectives.	----	SWRCB, USEPA	SCCWRP	Facilitate and participate	Ongoing
		4.7e. Facilitate and support research and special studies on remaining or emerging issues (e.g., impacts of fracking, ocean acidification)	----	SMBRC	LARWQCB, USEPA, SCCWRP, NPDES permittees, DFW	Facilitate and support	Ongoing
#5: Acquire land for preservation of habitat and ecological services	5.1. Acquire 2000 acres of priority open space in the Santa Monica Mountains	5.1a Acquire private parcels in the Santa Monica Mountains as they become available.	----	SMMC, State Coastal Conservancy	SCWRP	Participate and support	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	5.2. Acquire priority parcels in urbanized areas of the watershed	5.2a. Compile information and prioritize parcels for acquisition	----	SMBRC	MRCA, State Coastal Conservancy, CCI	Lead	Ongoing
		5.2b. Acquire priority parcels for preservation or habitat restoration	----	MRCA, State Coastal Conservancy, City and County parks and recreation departments, other land conservancies	----	Facilitate	Ongoing
#6: Manage Invasive Species	6.1. Achieve 303d listing for aquatic invasive species	6.1a. Compile and provide data to LARWQCB for their 303d listing review of existing invasive species and their impacts to beneficial uses	----	SMBRC	LARWQCB	Lead	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
#6: Manage Invasive Species	6.2. Coordinate and fund public education and outreach on invasive species	6.2a Continue to support the research, education and outreach on the control of New Zealand mudsnails, including potential biocontrols currently being evaluated.	----	SMBRC, TBF	State Parks, SMMC, NPS	Lead	Ongoing
		6.2b. Expand education and outreach to control other invasive species	----	State Parks, NPS	Coastal Conservancy, MRT, RCDSMM	Participate	Ongoing
	6.3. Develop and adopt plan and policies for invasive species control and prevention	6.3a. Develop and adopt watershed-specific comprehensive plans for control and prevention of invasive species by 2016.	2016	SCC, SWRCB, SMMC, DFW, CCC	Watershed cities, LA County	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		6.3b. Encourage adoption of policies that prevent introduction and planting of invasive species in landscaping and other public work projects.	----	Watershed cities, LA County, DFW	METRO	Facilitate	Ongoing
		6.3c. Update and strengthen existing plan and policies for preventing marine invasive species	----	DFW, NMFS	LARWQCB	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	6.4. Prevent importation and sale of known invasive species	6.4a. Coordinate with DFW, California Department of Food and Agriculture, local agencies, and private businesses to prohibit the sale of known invasive species such as for crayfish, <i>arundo donax</i> , pampas grass, fountain grass, and ice plant.	----	DFW, CDFA	Local agencies, NGOs, private business	Facilitate	Ongoing
	6.5. Fund and conduct invasive species removal programs and projects	6.5a. Conduct and complete riparian invasive species removal and native revegetation on 20 acres in the Santa Monica Mountains by 2020.	2020	NPS, Coastal Conservancy, DPR	CalTrans, RCDSMM, MRT	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		6.5b. Conduct and complete invasive species removal and revegetation on 20 acres of coastal bluffs and dunes by 2020	2020	State Coastal Conservancy, SCWRP, NMFS, PVPLC, LAC-DBH, LACC, LAX	Coastal cities, private businesses	Facilitate	Ongoing
		6.5c. Continue crayfish removal activities in Trancas and Malibu Creeks, and other infested areas.	----	SMBRC, TBF	Pepperdine, University, UCSB, MRT, RCDSMM	Lead	Ongoing
# 7: Restore wetlands, streams, and riparian zones	7.1. Restore Ballona Wetlands	7.1a. Complete the EIR/EIS process for Ballona Wetlands Restoration by 2014.	2014	DFW, State Coastal Conservancy	CSLC, Coastal Conservancy, ACOE, SMBRC, State Parks, NMFS	Participate	Ongoing
		7.1b. Develop and implement a long-term monitoring program for Ballona Wetlands.	2015	TBF, Coastal Conservancy	DFW	Co-Lead	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		7.1c. Secure funding source (approximately \$50 M, total project cost \$100–200 M) sufficient to complete first phase implementation of preferred alternative by 2016.	2016	Coastal Conservancy	State Parks, SCWRP, NMFS, Port of Los Angeles	Participate	Ongoing
	7.2. Restore Malibu Lagoon	7.2a. Conduct post-restoration monitoring & maintenance for Malibu Lagoon.	2016	State Parks, TBF, RCDSMM	Coastal Conservancy, Audubon Society and other non-profit groups	Co-Lead	Completed
		7.2b. Acquire and restore additional lands surrounding the current Lagoon footprint and along the lower Malibu Creek.	----	State Parks	N/A	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	7.3. Remove fish barriers and open 20 miles of stream habitat to migrating steelhead trout	7.3a. Remove priority barriers identified by the SMBRC, including barriers in Malibu Creek watershed (Rindge Dam, Century Dam, Cold Canyon, Las Virgenes Creek), Solstice Creek (PCH Bridge Replacement), Zuma (at grade road) by 2018.	2018	SMBRC, TBF, Coastal Conservancy, State Parks, DBH, Caltrans	NMFS, DFW	Co-Lead	Ongoing
		7.3b. Complete ACOE feasibility study for Rindge Dam removal by 2014.	2014	ACOE, SMBRC, SMMC, NMFS, Multiple Federal, State, local agencies, NGOs	State Parks, SMMC, NMFS	Participate	Completed
		7.3c. Complete removal of Arroyo Sequit barriers by 2014.	2014	SMBRC, TBF, State Parks	NMFS, Caltrans, NGOs	Co-lead	Completed
		7.3d. Restore stream habitat in Topanga Narrows by 2016.	2016	State Parks, RCDSMM, CalTrans	----	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	7.4. Restore urban streams, including daylighting culverted streams and removing cement channels	7.4a. Secure funding and implement priority projects identified in the Ballona Creek Greenway Plan by 2018.	2018	SMBRC	MRCA, Baldwin Hills Conservancy, Culver City, City of LA	Lead	Not Initiated
# 7: Restore wetlands, streams, and riparian zones	7.4. Restore urban streams, including daylighting culverted streams and removing cement channels	7.4b. Promote stream daylighting in Lafayette Park.	----	SMBRC	City of LA, MRCA, Coastal Conservancy, private businesses	Lead	Not Initiated
		7.4c. Implement more stream restoration projects in the Malibu Creek watershed.	----	Malibu Watershed Cities, SMMC, NPS, Coastal Conservancy	----	Facilitate	Ongoing
		7.4d. Complete stream restoration in more areas and continue ongoing maintenance of restored Stone Canyon Creek at UCLA by 2018.	2018	TBF	UCLA	Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		7.4e. Identify stream restoration alternatives within Baldwin Hills and nearby areas draining the Conservancy project area.	----	Baldwin Hills Conservancy	State Parks, LA County, City of LA	Participate	Ongoing
		7.4f. Protect/acquire remaining undeveloped lands, especially stream corridors, e.g., Hoag Canyon and remaining Corral Canyon properties	----	MRCA, Coastal Conservancy	----	Facilitate	Ongoing
	7.5 Restore Topanga Lagoon	7.5a. Develop preferred restoration alternative for Topanga Lagoon by 2015.	2015	State Parks	----	Participate	Ongoing
		7.5b. Complete the EIR for re-aligning the PCH bridge over Topanga Lagoon by 2017.	2017	State Parks, Caltrans	N/A	Participate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		7.5c. Complete full Lagoon restoration by 2020.	2020	State Parks	Caltrans	Participate	Not Initiated
	7.6. Restore Oxford Lagoon to provide native species habitat, improved water quality, improved flood storage, and greater public access	7.6a. Complete implementation of the lagoon restoration plan by 2015.	2015	County of LA	----	Participate	Completed
	7.7. Restore Del Rey Lagoon to improve water quality and increase wetlands habitat and public access.	7.7a. Acquire private parcels immediately adjacent to the lagoon by 2018.	2018	City of LA	----	Participate	Not Initiated
		7.7b. Conduct a feasibility study, develop a restoration plan and complete CEQA process by 2020.	2020	City of LA	----	Participate	Not Initiated
		7.7c. Complete restoration by 2022.	2022	City of LA	----	Participate	Not Initiated

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 7: Restore wetlands, streams, and riparian zones	7.8. Restore Trancas Lagoon.	7.8a. Complete feasibility analysis and land acquisition by 2015.	2015	NPS	Landowner	Participate	Ongoing
		7.8b. Develop a restoration plan and complete Trancas Lagoon restoration by 2020.	2020	NPS, SMMRCD	----	Participate	Ongoing
# 8: Restore coastal bluffs, dunes, and sandy beaches	8.1. Restore native coastal bluff and upland scrub habitats	8.1a. Complete restoration of four top priority sites (19.5 acres) identified in the Beach Bluff Restoration Master Plan by 2015.	2015	South Bay cities, LAC-DBH	Coastal Conservancy, DFG, NOAA	Participate	Ongoing
		8.1b. Enhance and expand restoration of LAX / El Segundo Dunes.	----	LAX	Chevron	Support	Ongoing
		8.1c. Complete more bluff restoration projects on PV peninsula.	----	PVPLC, PVP cities	NOAA	Participate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		8.1d. Restore the LMU Bluffs adjacent to the riparian corridor and connecting to the BWER.	2016	LMU, TBF	----	Co-Lead	Not Initiated
		8.1e. Restore the Cabora Drive bluff system adjacent to the BWER by 2016.	2016	CDFW, landowners	----	Participate	Not Initiated
	8.2 Protect and manage sandy beach habitats	8.2a. Develop sandy beach restoration and management plans that encourage protection of natural resources and human recreational opportunities by 2016.	2016	LAC-DBH, DPR, coastal cities and private businesses with beach management responsibilities	DFW, CCC, NOAA	Facilitate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		8.2b. Develop best practices for beach management for sandy beach habitat conservation. Establish formal procedures/certification program for Beach Management Certification by 2018.	2018	LAC-DBH, coastal cities and private businesses with beach management responsibilities	DFW, CCC, NOAA	Facilitate	Ongoing
		8.2c. Establish and implement a program to monitor beach animals, plants, and physical conditions in cooperation with scientists and community members by 2016.	2016	TBF, University researchers (Pepperdine, UCSB)	LAC-DBH, DPR, DFW, NOAA, CCC, Surfrider Foundation	Co-lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		8.2d. Develop and implement a public education program about the importance/benefits of natural, ungrooved beaches.	----	TBF, University researchers (Pepperdine, UCSB)	DPR, DFW, NOAA, CCC, Surfrider Foundation, Heal the Bay	Co-lead	Ongoing
		8.2e. Develop and implement beach habitat designation, conservation, and/or restoration projects by 2018.	2018	LAC-DBH, DPR	DFW, NOAA	Participate	Completed
# 9: Restore rocky intertidal and subtidal habitats	9.1. Restore and monitor sixty acres of kelp forest	9.1a. Implement the MSRP kelp restoration program and restore 60 acres of kelp habitat by 2018	2018	TBF, MSRP	DFW	Co-Lead	Ongoing
		9.1b. Develop and implement plan for reusing natural materials from Rindge Dam removal for reef restoration, if deemed feasible, by 2018.	2018	SMBRC, ACOE	DFW, CCC	Co-Lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	9.2. Protect and manage rocky intertidal habitat	9.2a. Conduct a pilot project to test three different methods of intertidal protection by 2015.	2015	Coastal Conservancy, State Parks	LAC-DBH	Participate	Ongoing
		9.2b. Propose adoption of optimal management measures by responsible agencies by 2015.	2015	Coastal Conservancy, State Parks	LAC-DBH	Participate	Ongoing
		9.2c. Promote public and school education and adoption of measures for protecting sensitive habitats during tidepool fieldtrips.	----	Coastal Conservancy, State Parks	LAC-DBH	Promote	Ongoing
	9.3. Re-introduce and restore an abalone population	9.3a Complete a pilot project to re-introduce abalone to local native habitat by 2015.	2015	SeaLab	DFW, NOAA, City of Ranchos Palos Verdes	Participate	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	9.4. Assess and protect seagrass habitats	9.4a. Conduct an assessment on the status of historical and existing seagrass habitats and develop management and funding recommendations by 2015.	2015	NOAA, NMFS	DFW	Participate	Ongoing
		9.4b. Assess, protect and restore offshore eel grass habitat in the North Bay by 2020.	2020	NOAA, NMFS	VRG, SCMI, DFW	Participate	Ongoing
# 10: Protect and restore open ocean and deep water habitats	10.1. Update and expand knowledge of unique habitats within Santa Monica Bay.	10.1a. Update information of deep canyon and deep reef habitats including Short Bank from previous assessment and conduct new reconnaissance study if necessary by 2016.	2016	LACSD, SMBRC, SCCWRP	N/A	Co-lead	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		10.1b. Assess Torrance Beach and other shallow nearshore habitats and develop protection measures if necessary.	----	SMBRC	LACSD, City of LA Bureau of Sanitation, DFW	Lead	Ongoing
# 10: Protect and restore open ocean and deep water habitats	10.2. Assess harmful algal bloom and its causes and impacts on Bay's ecosystem	10.2a. Conduct and coordinate research on status, causes and impacts of harmful algal blooms, including hypoxia in deeper water in Santa Monica Bay.	----	SCCWRP, SCCOOS, Regional Universities	----	Promote	Ongoing
		10.2b. Maintain and enhance the coordinated HAB alert network.	----	State OPC	SCCWRP, SCOOS, Regional Universities	Promote	Ongoing

SECTION III. BENEFITS AND VALUES TO HUMANS

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
<p># 11: Protect public health</p>	<p>11.1. Achieve minimum beach closures and postings at Santa Monica Bay beaches</p>	<p>11.1a. Evaluate the need for and implement additional dry weather (summer and winter dry periods) diversions for achieving compliance with Santa Monica Bay dry-weather bacterial TMDL by 2015.</p>	<p>2015</p>	<p>SWRCB (CBI)</p>	<p>LA County, beach cities</p>	<p>Participate</p>	<p>Ongoing</p>
		<p>11.1b. Enhance collaboration among local agencies through the Enhanced Watershed Management Plan groups in SMB. Develop and implement an integrated approach to reduce wet-weather pathogen contamination.</p>	<p>----</p>	<p>LA County, watershed cities, park agencies, Caltrans.</p>	<p>LARWQCB</p>	<p>Participate</p>	<p>Ongoing</p>

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	11.2. Develop and adopt new pathogen indicators and source identification tools	11.2a Conduct more research on new rapid and pathogen-specific indicators.	----	SWRCB (CBI), USEPA	SCCWRP	Promote	Ongoing
		11.2b. Incorporate new effective indicators into water quality objectives and monitoring programs by 2018.	2018	SWRCB, State Health, USEPA, LARWQCB	----	Support	Ongoing
	11.3. Update seafood consumption advisories and risk communication messages	11.3a. Expand the area location and species of fish and invertebrate contamination survey, and develop and issue new consumption advisory if necessary	----	OEHHA, USEPA	State Public Health	Promote	Not Initiated
		11.3b Update fish advisory signage and develop and distribute new educational materials if necessary.	----	OEHHA, USEPA	State Public Health, LA County Health, other FCEC partners	Participate	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	11.4 Maintain and enhance institutional control measures (enforcement, monitoring, and education) through coordination with partner agencies to reduce the risk of consumption of contaminated fish in high risk ethnic communities	11.4a. Reestablish catch-ban area to correspond with commercial catch-blocks in order to increase understanding of regulations and enforce adherence to regulations by 2015.	2015	DFW, USEPA	----	Promote	Not Initiated
11.4b. Utilize community organizations and health professionals to educate at-risk families by 2018.		2018	LA County Health Dept., USEPA	----	Promote	Ongoing	
11.4c. Enhance the health inspectors' market inspection program to reduce and prevent contaminated white croaker from being sold on markets by 2018.		2018	LA County Dept. of Public Health	----	Promote	Ongoing	

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		11.4d. Continue to reach out to recreational anglers with FCEC messaging and increase angler awareness of local fish advisory by 2018.	2018	USEPA	Heal the Bay, Cabrillo Aquarium	Promote	Ongoing
		11.4e. Increase enforcement of existing bag limit for white croaker by 2018.	2018	DFW	USEPA	Promote	Ongoing
# 11: Protect public health	11.5. Remediate contaminated sediments	11.5a. Evaluate, update, and revise the remediation strategy for contaminated sediments on Palos Verdes shelf based on new monitoring data by 2015.	2015	USEPA (Superfund)	----	Promote	Ongoing
		11.5b. Finalize and implement a remediation plan by 2016.	2016	USEPA (Superfund)	----	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 12: Maintain/increase natural flood protection through ecologically functioning floodplains and wetlands	12.1. Acquire and restore priority parcels to increase acreage of ecologically functioning floodplains and wetlands	12.1a. Develop a prioritized property list and acquire priority parcels for floodplain and wetland restoration in coordination with milestones under Objective 5.1 and 5.2.	----	MRCA, State Coastal Conservancy	----	Promote	Ongoing
	12.2. Develop and implement a comprehensive regional sediment management plan for restoring natural hydrological functions of river systems.	12.2a. Work with LA County FCD to develop sediment transport strategy and mechanism that optimize habitat, water quality and flood control purposes by 2015.	2015	LA County, SMBRC	ACOE	Co-lead	Ongoing
		12.2b. Fund and implement pilot projects to test of transport sediment down stream with natural storm flows.	2018	LA County, SMBRC	ACOE	Co-lead	Not Initiated

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
# 13: Increase public access to beaches and open space	13.1. Increase public access to Santa Monica Mountains through purchase and enhancement of open space	13.1a. Acquire available private parcels and easements (including those specified under Objective #5.1) and open them to the public to increase access and recreational opportunities by 2018.	2018	SMMC, Coastal Commission	Coastal Conservancy, State Dept. of Parks and Recreation, NPS	Participate	Ongoing
	13.2. Increase acreage and access to parks and open space in urbanized areas through acquisition and conversion of private parcels	13.2a. Acquire and convert 30 acres of parks/open space in urban areas, focused on the needs of underserved communities, by 2020	2020	MRCA, watershed cities	Coastal Conservancy	Participate	Ongoing
		13.2b. Acquire parcel adjacent to Lafayette Park for public ownership to convert to pervious surfaces and increase recreational opportunities.	2018	City of LA, SMBRC	City of LA, MRCA, Coastal Conservancy	Co-lead	Not Initiated

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		13.2c. Acquire parcel at north end of Del Rey Lagoon for City of LA ownership as identified under Objective 7.9 to improve connectivity to Ballona Creek estuary by 2018.	2018	City of LA	----	Facilitate	Ongoing
# 13: Increase public access to beaches and open space	13.3. Increase public access points to Ballona Creek and wetlands	13.3a. Open additional public access points to Ballona Wetlands including the Fiji Gateway by 2014.	2014	MRCA, DFG, Coastal Conservancy	Ballona Wetlands Restoration Working Group	Facilitate	Ongoing
		13.3b. Implement selected Ballona Creek Greenway Plan projects (including those specified under Objective #7.4) to increase recreational opportunity and connectivity along Ballona Creek.	----	MRCA, Baldwin Hills Conservancy, Culver City, City of LA	SCC	Facilitate	Completed

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	13.4. Increase public access to Santa Monica Bay beaches	13.4a. Improve dissemination of information on public beach access.	----	Coastal Commission	Coastal Conservancy, State Lands Commission, State Dept. of Parks and Recreation	Participate	Ongoing
		13.4b. Complete Santa Monica Bay section of the California Coastal Trail by 2020.	2020	Coastal Commission	Coastal Conservancy, State Lands Commission, State Dept. of Parks and Recreation	Promote	Ongoing
		13.4c. Open more Offer to Dedicate (OTD) public access easement along Santa Monica Bay that are currently closed to the public.	----	Coastal Commission	Coastal Conservancy, State Lands Commission, State Dept. of Parks and Recreation	Promote	Ongoing
		13.4d. Support beach replenishment that both increase beach use opportunity and protect beach ecology.	----	Coastal cities, LAC-DBH, ACOE, Coastal Commission	----	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		13.4e. Support land acquisition for providing more beach access.	----	Coastal Commission	Coastal Conservancy, State Lands Commission, State Dept. of Parks and Recreation	Promote	Ongoing
# 14: Conserve water and increase local water supply	14.1. Increase local water supplies	14.1a. Capture, treat, and reuse dry weather and storm water runoff in consistent with the numeric targets set by the regional IRWMP	----	Watershed cities, local water districts	LARWQCB	Facilitate	Ongoing
		14.1b. Treat and reuse contaminated ground water consistent with the numeric target set by the regional IRWMP.	----	Watershed cities, LA County, local municipal water districts.	LARWQCB	Promote	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
<p># 14: Conserve water and increase local water supply</p>	<p>14.1. Increase local water supplies</p>	<p>14.1c. Develop standards for rain water use. Develop and implement financial incentives for storm water recharge projects that produce new water and offset reliance on imported potable water supply.</p>	<p>----</p>	<p>Watershed cities, LA County</p>	<p>LARWQCB</p>	<p>Promote and participate</p>	<p>Ongoing</p>
	<p>14.2. Enhance water conservation</p>	<p>14.2a. Reduce water demand by enhancing existing water conservation measures/programs</p>	<p>----</p>	<p>Regional and local water districts, watershed cities, LA County</p>	<p>----</p>	<p>Promote</p>	<p>Completed</p>
		<p>14.2b. Develop and adopt new requirements for planting of native, drought-tolerant vegetations in landscaping on public properties.</p>	<p>----</p>	<p>Regional and local water districts, watershed cities, LA County</p>	<p>----</p>	<p>Participate</p>	<p>Ongoing</p>
		<p>14.2c Provide financial incentives for water conservation</p>	<p>----</p>	<p>Regional and local water districts, watershed cities, LA County</p>	<p>----</p>	<p>Promote</p>	<p>Completed</p>

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
	14.3 Further increase wastewater recycling and reuse	14.3a. Recycle sufficient wastewater to replace current imported water supplies in the area served by JWPCP of the LACSD (230,000 acre-feet per year) by 2020.	2020	LACSD (JWPCP), West Basin Municipal Water District	----	Support	Ongoing
		14.3b. Increase use of recycled water recharge volume from the Hyperion Treatment Plant, including the City of LA's planned delivery of 14,300 ac-ft/year in stages, in addition to the potential to supply WBMWD with up to 67,000 ac-ft/year by 2020.	2020	LADWP, City of LA B. of Sanitation, West Basin Municipal Water District, LVMWD	MWD, SWRCB	Support	Ongoing

Goal	Objective	Milestone	Target Date	Implementation Lead	Implementation Partners	Role of the SMBNEP	Completion Status
		14.3c: Increase the use of recycled water from the Tapia Water Reclamation Facility through expansion of the distribution and transmission system, regional partnerships for the sale of recycled water, and construction of a seasonal storage facility for recycled water by 2030.	----	LVMWD	LADWP	Support	Ongoing
		14.3d: Support investigation and study of opportunities for direct and indirect potable reuse by 2020.	----	Regional and local water districts	CADPH, SWRCB, LARWQCB	Support	Ongoing

Appendix B: CCMP Components Crosswalk

Appendix B contains a summary table with a crosswalk between various CCMP elements and the USEPA funding guidance requirements (2020).

SMBNEP CCMP Components
CCMP Introduction Chapter (Approved February 2021)
Action Plan (Approved October 2018)
Finance Plan (Approved December 2019)
SMBRC Memorandum of Understanding (MOU; Approved June 2020)
Comprehensive Monitoring Plan (CMP; Consideration of approval anticipated in April 2021)

USEPA Reference	USEPA Funding Guidance Requirement (Revision)	SMBNEP CCMP Component	Page Numbers	Notes
pg 39	Scope of CCMP	Introduction Chapter	Introduction Chapter, pg 7	See "Purpose and Scope of CCMP" subsection
pg 39	CCMP Revision versus Update	Introduction Chapter	Introduction Chapter, pg 7 and pg 14	See "Priorities for Action" subsection and "Need for Revision" subsection
Checklist 1, #1 (pg 40)	Identify changes between drafts and changes to existing CCMP	Redline version of CCMP (Oct 2018) and Action Plan Appendix A (crosswalk to BRP 2013); see also Introduction Chapter ("Changes since 2013")	N/A	The redline version clearly indicates where SMBNEP's Management Conference and public provided input to the draft; Appendix A cross-walks the 2018 CCMP to the 2013 BRP; see also "CCMP Action Plan Comments + Responses, Oct 2018"
Checklist 1, #2 (pg 40)	Describe how the NEP has contributed to or supported activities that helped develop new information, if applicable, when highlighting major changes due to new information (e.g., vulnerability assessment, State of the Bay).	Introduction Chapter	Introduction Chapter, pg 7 and pg 14	See "Priorities for Action" subsection and "Need for Revision" subsection

USEPA Reference	USEPA Funding Guidance Requirement (Revision)	SMBNEP CCMP Component	Page Numbers	Notes
Checklist 1, #3 (pg 40)	Map and description of the study area	Introduction Chapter	Introduction Chapter, pgs 4-6	See "Study Area" subsection and Figures 1 and 2
Checklist 1, #4 (pg 40)	Describe the NEP's Management Conference and membership with any proposed changes and explain how the structure will support the NEP's ability to oversee and promote CCMP implementation.	SMBRC's Memorandum of Understanding (2020); Introduction Chapter	Introduction Chapter, pg 13	New MOU (June 2020); summary included in Introduction Chapter, see "SMBNEP Governance Structure Revision" subsection
Checklist 1, #5 (pg 40)	Discuss changes to existing CCMP action plans, and new action plans, including their relationship to previously stated goals and priority problems	Introduction Chapter and Action Plan (2018)	Introduction Chapter, pgs 7-14	See "Purpose and Scope of CCMP" subsection; see "Goals" and "Priorities" subsections identified in Action Plan (2018)
Checklist 1, #5 (pg 40)	Discuss the probable causes (of the problems) and sources they address; and measurable objectives, where appropriate, to attain the goal.	Action Plan (Oct 2018)	Action Plan, pgs 5-50	All Actions in the Plan include background information with appropriate context, when available, measurable environmental results, and additional detail.
Checklist 1, #5 (pg 41)	Each CCMP Action must identify the key activities expected to be implemented to address the priority problem.	Action Plan (Oct 2018)	Action Plan, pgs 5-50	All Actions in the Plan include "next steps", which are key activities identified to address the priority actions.

USEPA Reference	USEPA Funding Guidance Requirement (Revision)	SMBNEP CCMP Component	Page Numbers	Notes
Checklist 1, #5 (pg 41)	Table comparing the old completed or deemed obsolete actions, and new, revised, or on-going actions in the CCMP. A crosswalk from previous action to current action and a description of change should be included.	Action Plan Appendix A (crosswalk to BRP 2013); see also Introduction Chapter and Introduction Appendix A	N/A	CCMP Action Plan Appendix A cross-walks the 2018 CCMP to the 2013 BRP; see also Introduction Chapter ("Changes since 2013"), Figure 7, and Introduction Appendix A
Checklist 1, #5a (pg 41)	CCMP Actions: a) describe each action and what is proposed	Each Action in the new Action Plan includes an "Action History and Summary" section, which equates to a description and explanation of the action, why it is a priority, scientific or background information and brief or recent history	Action Plan, pgs 5-50	Not intended to be a full narrative, but rather provide context for its importance in the scope of the CCMP
Checklist 1, #5b (pg 41)	CCMP Actions: b) identify key activities to implement the action, including affected habitat types, or resource(s) if appropriate	Each Action in the new Action Plan includes "Next Steps" which equate to milestones towards completion, as well as a suggested timeline (in the 5-year timeframe) for completion	Action Plan, pgs 5-50	Each action also identifies if it is targeted towards a specific habitat type or resource
Checklist 1, #5c (pg 41)	CCMP Actions: c) identify proposed action plan responsibilities, including likely lead parties, along with any implementing partners	Each Action in the new Action Plan includes "Lead Entity(ies) and Collaborating Partners" to identify key entities responsible for accomplishing the action	Action Plan, pgs 5-50	Identified as part of the Management Conference review and public input portion of action development

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Checklist 1, #5d (pg 41)	CCMP Actions: d) include a timeframe, and where appropriate, key milestones for completion	Each Action in the new Action Plan includes "Next Steps" which equate to milestones towards completion, as well as a suggested timeline (in the 5-year timeframe) for completion	Action Plan, pgs 5-50	These describe clear, concise "to do" items for the next five years and may reference the context in which the step should take place
Checklist 1, #5e (pg 41)	CCMP Actions: e) estimate the range of potential costs of the overall action and identify the possible sources of funding	Finance Plan (Dec 2019); Comprehensive Monitoring Plan	N/A	Finance Plan completed December 2019; CMP (2021) includes finance summary as a component of Chapter 9
Checklist 1, #5f (pg 41)	CCMP Actions: f) include performance measures (quantitative measures and intended environmental results wherever possible)	Each Action in the new Action Plan includes "Performance Measures" which are quantitative, when possible; additionally, each Action contains "Long-term Environmental Results"	Action Plan, pgs 5-50	Performance measures track progress towards achieving completion of an action and environmental results are focused on significant outcomes as related to an environmental program or activity
Checklist 2, #1 (pg 41)	Include a Monitoring Plan to track and detect changes and/or improvements within the study area (so change in environmental indicators can be detected over time), and effectiveness of CCMP Actions.	Comprehensive Monitoring Plan	CMP, all pages	CMP 2021; includes seven major habitat types for the Bay and its watershed

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Checklist 2, #2 (pg 42)	Include a Finance strategy that will establish long-term financial sustainability to implement the CCMP through diverse resources and partners.	Finance Plan (Dec 2019)	Finance Plan, all pages	Completed December 2019
Checklist 2, #3 (pg 42)	Include a Habitat Protection/Restoration strategy. The strategy should clearly tie back to habitat or ecosystem issues addressed in the CCMP, including those habitats and species prioritized for protection and or restoration efforts. Strategies should reflect a climate change vulnerability assessment.	Action Plan (Oct 2018); Introduction Chapter; Climate Change Vulnerability Assessment (2016)	Action Plan, especially pgs 5-23	See specific actions categorized as "Direct Management Actions" and those actions with next steps related to individual habitats; see also Introduction Chapter, "Habitat Protection and Restoration Strategy"; CCVA 2016; Example Actions with climate inclusion: 2, 4, 6, 22, 24, 30, 34, 36, 42, 44, others
Checklist 2, #4 (pg 42)	Include a Communication/Outreach strategy to ensure community involvement and ownership in CCMP implementation	Action Plan (Oct 2018); Introduction Chapter	Action Plan, especially pgs 31-37; Introduction Chapter, pg 20	See specific actions categorized as "Stakeholder Education and Engagement" and those actions with next steps related to community engagement; SMBRC's MOU contains additional information on stakeholder engagement, especially with the "Stakeholder Workshop(s)"; see also Introduction Chapter, "Communication and Outreach Strategy" subsection

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Checklist 2, #5 (pg 42)	Make sure to include a public review process that extends beyond the Management Conference members. Responses to comments should be summarized and be made publicly available. A 60-day comment period should be employed when Revising a CCMP.	Introduction Chapter; redline version of CCMP Action Plan from Oct 2018; comment + response documents; MOU section	N/A	See "CCMP Revision Process" subsection and contributor Appendix; see also "CCMP Action Plan Comments + Responses, Oct 2018" and separate redline document of Action Plan; public process defined and listed in the MOU document as well